```
Title:
Perfect score:
Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Minimum
Maximum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Post-processing:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Total number
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OM protein -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             93:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pred. No. is th score greater t and is derived
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB DB
       seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Issued_Patents_AA:*
1: /cgn2_6/ptodata/2,
2: /cgn2_6/ptodata/2,
3: /cgn2_6/ptodata/2,
4: /cgn2_6/ptodata/2,
5: /cgn2_6/ptodata/2,
6: /cgn2_6/ptodata/2,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               length: 0
length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query
Match
           100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
100.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     is the number of results predicted by chance to have a ater than or equal to the score of the result being printed, rived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BLOSUM62
Gapop 10.0 ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         March 14, 2003, 19:21:19; Search time 25 Seconds (without alignments) 549.620 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-689-159A-2
2391
1 MTELPAPLSYFQNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              262574 segs, 29422922 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MTELPAPLSYFQNAQMSEDN.....ATDYLVQPFMDQLAFHQFYI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GenCore version 5.1.4_p5_4578 Copyright (c) 1993 - 2003 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /cgn2_6/ptodata/2/iaa/5A_COMB.pep:*
/cgn2_6/ptodata/2/iaa/5B_COMB.pep:*
/cgn2_6/ptodata/2/iaa/6B_COMB.pep:*
/cgn2_6/ptodata/2/iaa/6B_COMB.pep:*
/cgn2_6/ptodata/2/iaa/ACTUS_COMB.pep:*
/cgn2_6/ptodata/2/iaa/PCTUS_COMB.pep:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length DB
           4467
4467
4467
4467
4467
4467
44667
44667
44667
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gapext 0.5
                                                                2 US-08-967-101-2 Sequence 2 US-08-99-124-698-2 Sequence 2 US-08-99-124-698-2 Sequence 2 US-08-99-124-523-2 Sequence 2 US-08-99-124-523-2 Sequence 2 US-08-967-101-134 Sequence 1 US-08-964-2 Sequence 1 US-08-964-2 Sequence 1 US-08-964-2 Sequence 2 US-08-978-4 Sequence 2 US-08-978-2 Sequence 1 US-08-978-2 Sequence 2 US-08-978-3 Sequence 2 US-08-978-3 Sequence 2 US-08-978-3 Sequence 3 US-08-813-813-3 Sequence 3 US-08-813-813-3 Sequence 3 US-08-813-813-3 Sequence 3 US-08-978-318-3 Sequence 3 US-08-706-344C-32 Sequence 3 US-08-706-344C-34 Sequence 3 US-08-706-344C-35 Sequence 3 US-08-706-344C-36 Sequence 3 US-08-706-344C-36 Sequence 3 US-08-706-344C-38 Sequence 3 US-08-706-344C-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SUMMARIES
                                  sequence
sequence
sequence
sequence
sequence
sequence
sequence
sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          tion
2, Appli
2, Appli
2, Appli
2, Appli
2, Appli
2, Appli
134, App
104, Appli
105, Appli
106, Appli
107, Appli
108, Appli
109, Appli
109
```

Qy

1 MTELFAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR 60

0

Query Ma Best Loo Matches	RESULT 1 US-08-967-1 Sequence Patent Note GENERAL APPLIC COMPUT MEDDI APPLIC COMPUT AP	28 31 31 31 31 31 31 31 31 31 31 31 31 31
atc cal		2237 2237 2239 2190 2190 2190 2190 2183, 5 2066 1461 1461 1461 1461 1461 1461 1461 1
h Similarity 67; Conserva	ROBERT V TO COCCETE CE CHOMZZAZACE	55555555555555555555555555555555555555
100.0% 100.0% tive	ON: GEORGE-HYSLOP, GEORGE-HYSLOP, GEORGE-HYSLOP, GEORGE-HYSLOP, MENS, JOHANNA M SER, PAUL E ION: GENETIC SE ION: TO ALZHEIM NCES: 183 ADDRESS: ESTA HURWITZ & Street Tower - chusetts A. LE FORM: Floppy disk M PC compatible M PC compatible TEM: PC-DOS/MS- tentin Release # TION DATA: UMBER: US/08/96 10-NOV-1997 N: 435 ON DATA: UMBER: 08/592,5 INFORMATION: GON DATA: UMBER: 08/592,5 INFORMATION: TERISTICS: TERISTICS: amino acids acid single near	4677 2 4 4 6 6 7 7 4 4 4 6 6 7 7 8 4 6 6 7 7 8 4 6 6 7 7 8 4 4 4 4 8 8 8 8 8 8 8 8 8 8 8 8 8
; Score ; Pred. 0; Mis	101 , PETE M M SEQUEN IMER'S - 125 - 125 - 125 - 125 - 125 - 125 - 125 - 125 - 125	US-08-888-0 US-08-967-1 US-08-967-1 US-08-967-1 US-08-968-967-1 US-08-967-1
Score 2391; DB Pred. No. 9.7e-2 Mismatches	ES AND DISEASE DISEASE Straigh Str	08-888-077A-17 08-496-841C-136 08-967-101-4 08-592-541-4 09-127-480-4 09-127-480-4 08-496-641C-4 08-188-231-4 08-967-101-137 08-8967-101-137 08-988-077A-19 08-927-748-137 09-127-480-137 09-127-480-137 09-127-381-37 09-375-318-2
2; Length 235; 0; Indels	TEINS	
th 467; els 0;	RELATED	Sequence
Gaps		17, App 136, App 4, App1 4, App1 4, App1 4, App1 17, App 17, App 137, Ap 137, Ap 137, Ap 137, Ap 137, Ap 2, App1 2, App1
0		י משאשאלים מסיי מימי מא

100.0%;

Pred. No.

0;

Mismatches

9.7e-235; hes 0;

Indels

0

Gaps

```
Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   문
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÕ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-08-592-541-2
; Sequence 2, A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Дb
                           US-08-592-541-2
  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 2 Patent No.
                                                                                                                 TELEFAX: (617) 248-71 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                             NAME: Pitcher, Edmund R.
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 248-7000
TELEFAX: (617) 248-7100
                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: FRASER, PAUL E
TITLE OF INVENTION: GENETIC SEQUENCES AND PROTEINS
TITLE OF INVENTION: TO ALZHEIMER'S DISEASE
                                       MOLECULE TYPE:
                                                                                    SEQUENCE CHARACTERISTICS:
LENGTH: 467 amino acids
                                                                                                                                                                             CLASSIFICATION: 800
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                SOFTWARE: PatentIn Release #1.0, Version CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                     CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                               ADDRESSEE:
STREET: Hi
CITY: Bost
                                                                                                                                                                                                                                                                                                                     STATE: M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                               TYPE: amino a STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                    TOPOLOGY:
                                                                                                                                                                                                        FILING DATE:
                                                                                                                                                                                                                    APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           _
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               YLGEVFKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       YLGEVFKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DTETYGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLFFFSFI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DTETVGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLEFFESFI 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           INFORMATION
                                                                                                                                                                                                                                                                                                              02110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         , Application US/08592541 5986054
                                                                                                                                                                                                                                                                                                                                                Boston
                                                                            amino acid
                                                                                                                                                                                                                                                                                                                                   Massachusetts
                                                                                                                                                                                                                                                                                                                                                          High Street Tower
                                                                                                                                                                                                                                                                                                                                                                                                                                                 ST. GEORGE-HYSLOP, PETER H
ROMMENS, JOHANNA M
                                                                                                                                                                                                                                                                                                                      U.S.A.
                                                   ss: single
linear
                                                                                                                                                                                                                                                                                                                                                                        TESTA,
                                       protein
                                                                                                                                                                                                                                                                                                                                                                       HURWITZ
  100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                 183
                                                                                                                                                                                                                      US/08/592,541
                                                                                                                                                                                                                                                                                                                                                              ı Qı
   Score
                                                                                                                                                                                                                                                                                                                                                           THIBEAULT
125 High Street
   2391;
  DВ
                                                                                                                                                                                                                                             #1.30
 2;
Length
                                                                                                                                                                                                                                                                                                                                                                                                                          RELATED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   467
  467;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ър
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             рь
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Best Local Similarity Matches 467; Conserv
```

```
RESULT 3
US-09-124-698-2
    FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Pitcher, Edmund R.
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 248-7000
TELEPHONE: (617) 248-7100
INFORMATION FOR SEQ ID NO: 2:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
APPLICANT: ST. GEORGE-HYSLOP, PETER
APPLICANT: ROMMENS, JOHANNA M
APPLICANT: FRASER, PAUL E
TITLE OF INVENTION: GENETIC SEQUENCE
TITLE OF INVENTION: TO ALZHEIMER'S I
                                                                                                                                                                                                      CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS:
                                                                                                                                          PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                         NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                              STATE:
                                                                                                                                                       CLASSIFICATION:
                                                                                                                                                                                                                   MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC Computible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0
                                                                                                                                                                                                                                                                                                                                             CITY: Boston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                        APPLICATION NUMBER:
                                                                                                                                                                         FILING DATE:
                                                                                                                                                                                       APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                            STREET:
                                                                                                                                                                                                                                                                                                                                                                              ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 YLGEVEKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  YLGEVFKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ŋ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     , Application US/09124698 6117978
                                                                                                                                                                                                                                                                                                 02110
CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                              Massachusetts
                                                                                                                                                                                                                                                                                                                                                             High Street
                                                                                                                                                                                                                                                                                                              U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                             TESTA, HURWITZ
gh Street Tower
                                                                                                                                                                                                                                                                                                                                                                                                                          GENETIC SEQUENCES AND
TO ALZHEIMER'S DISEASE
                                                                                                                                                                                                                                                                                                                                                                                                             183
                                                                                                                                                                                                                   Release #1.0,
                                                                                                                                                                                       US/09/124,698
                                                                                                                           08/592,541
                                                                                                                                                                                                                                                                                                                                                               1 22
                                                                                                                                                                                                                                                                                                                                                             THIBEAULT
                                                                                                                                                                                                                                                                                                                                                             High Street
                                                                                                                                                                                                                      Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ×
                                                                                                                                                                                                                                                                                                                                                                                                                                        PROTEINS
                                                                                                                                                                                                                      #1
                                                                                                                                                                                                                        . 30
                                                                                                                                                                                                                                                                                                                                                                                                                                           RELATED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         60
```

```
US-09-127-480-2; Sequence 2, A
                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                                                                                                                                                                                                           δô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      γQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; MOLECULE TYPE: US-09-124-698-2
                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                   Sequence 2, Application US/09127480
Patent No. 6194153
GENERAL INFORMATION:
APPLICANT: ST. GEORGE-HYSLOP, PETER H
APPLICANT: ROMMENS, JOHANNA M
APPLICANT: FRASER, PAULE
TITLE OF INVENTION: GENETIC SEQUENCES AND PROTEINS
TITLE OF INVENTION: TO ALZHEIMER'S DISEASE
NUMBER OF SEQUENCES: 183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ouery Match 100.0%;
Best Local Similarity 100.0%;
Matches 467; Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: amino acid
STRANDEDNESS: sinc
TOPOLOGY: linear
MOLECULE TYPE: prote
                                                            SOFTWARE: PatentIn Release #1.0, Version CURRENT APPLICATION DATA:
                                                                                    COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IEM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                 CORRESPONDENCE ADDRESS:
ADDRESSEE: TESTA, HURWITZ &
STREET: High Street Tower -
                                                                                                                                             STREET: High:
CITY: Boston
STATE: Massac
COUNTRY: U.S.
                                                                                                                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                             361
                                                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
   FILING DATE:
CLASSIFICATION:
RIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                    APPLICATION NUMBER:
                                                                                                                                   ZIP: 02110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LENGTH: 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR
                                                                                                                                                                                                                                                                                                                                                                           TLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR
                                                                                                                                                                                                                                                                                                                                                                                                                            VQELSSSILAGEDPEERGYKLGLGDFIFYSYLVGKASATASGDWNTTIACFVAILIGLCL
                                                                                                                                            Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             single
    US/08/592,541
                                                    US/09/127,480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 2391; DB 3;
Pred. No. 9.7e-235;
; Mismatches 0;
                                                                                                                                                                                  THIBEAULT
                                                                                                                                                                                  High Street
                                                                           #1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0,:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LENGTH: 467 am
; TYPE: amino ac
; STRANDEDNESS:
; TOPOLOGY: line
; MOLECULE TYPE: p
US-09-127-480-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q
                                                                                                                                                                                                                               RESULT 5
US-08-496-841C-2
                                                                                                                                                                                                                                                                                                   QΥ
                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                             ф
                                                                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                               Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VΩ
                                                                                                                                                                                           Sequence 2, Application US/08496841C Patent No. 6210919
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches 467;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEFAX: (617) 248-7100
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILING DATE:
ATTORNATION:
ATTORNATION:
NAME: Pitcher, Edmund R.
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 248-7000
TELEPHONE: (617) 248-7000
STREET: 805 Third Avenue
CITY: New York
STATE: New York
COUNTRY: U.S.A.
ZIP: 10022
COMPUTER READABLE FORM:
MEDJUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                               361
                                                                                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity
                                                                                              NUMBER OF SEQUENCES: 175
CORRESPONDENCE ADDRESS:
ADDRESSEE: Darby & Darby,
                                                                                                                                            APPLICANT: ST. GEORGE-HYSLOP,
ROMMENS, JOHANNA M
FRASER, PAUL E
TITLE OF INVENTION: GENETIC SI
                                                                                                                                                                                                                                                                              TLLLLAIFKKALPALPISITEGLVFYFATDYLVQPFMDQLAFHQFYI 467
                                                                                                                                                                                                                                                                                                                              GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        467 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100.0%;
                                                                                                                                 GENETIC SEQUENCES AND PROTEINS
TO ALZHEIMER'S DISEASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                  PETER
                                                                                                8
```

RELATED

420

360

420

```
GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                              LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE
                       LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE
                                                                                                                                                                                        Score 2391; DB 4;
Pred. No. 9.7e-235;
                                                                                                                                                                                 Mismatches
                                                                                                                                                                                0
                                                                                                                                                                                               Length
                                                                                                                                                                                 Indels
                                                                                                                                                                                                467;
                                                                                                                                                                                 0
                                                                                                                                                                                Gaps
       360
                                                                                                                                 120
                                                                                    180
                                                                                                   180
                                                                                                                   120
                                                                                                                                                                 60
                                      300
                                                     240
                                                                    240
                                                                                                                                                  60
                       300
```

```
RESULT 6
US-09-124-523-2
US-09-124-523-2
Sequence 2, Application US/091245:
Patent No. 6395960
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: ST. GEORGE-HYSLOP,
APPLICANT: ROMMENS, JOHANNA M
APPLICANT: FRASER, PAUL E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                                                                                                          δį
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ν
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                       DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ~
B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q
                                                                                                                                                                                                                              망
                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                            , Q
                                                                                                                                                                                                                                                                                                                                            ᄝ
                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-08-496-841C-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: US/08/496,841C
FILING DATE: 28-Jun-1995
CLASSIFICATION: <Unknown>
ATTORNEY/AGENT INFORMATION:
NAME: Paul F. Fehlner, Ph.D.
REGISTRATION UNMBER: 35,135
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 527-7700
TELEPHONE: (212) 527-7700
TELEFAX: (212) 753-6237
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches 467;
                           NUMBER OF SEQUENCES: 1
                                                       TITLE OF INVENTION: GENETIC SEQUENCES AND TITLE OF INVENTION: TO ALZHEIMER'S DISEASE
                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                          421
                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
  STREET:
                 ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TOPOLOGY: linear
MOLECULE TYPE: protein
SEQUENCE DESCRIPTION: SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                           TLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                      VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL
                                                                                                                                                                                                                                                                                                                                                        GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                                                                                                                                                                                                                                              QVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTE 120
                                                                                                                                                                                                                                                                                                                                           GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR
                                                                                                                                                                                                                                                                                     VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL
                                                                                                                                                        Application US/09124523
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LENGTH: 467 amino acids
TYPE: amino acid
STRANDEDNESS: single
  High
                                                                                                               ST. GEORGE-HYSLOP, PETER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
  TESTA, HURWITZ
gh Street Tower
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100.0%;
                                             183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                   z
     ı Ro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 2391; DB 4;
Pred. No. 9.7e-235;
0; Mismatches 0;
THIBEAULT
125 High Street
                                                                      AND PROTEINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 467;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                     360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           60
                                                                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0,
```

```
δõ
                                                                                Ωy
                                                                                                              рь
                                                                                                                                     Qy
                                                                                                                                                                      В
                                                                                                                                                                                             QΥ
                                                                                                                                                                                                                           Вb
                                                                                                                                                                                                                                                  Q
                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                          Qy
                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                 δõ
                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                         Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; MOLECULE TYPE: protein US-09-124-523-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEFAX: (617) 248-7100
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 467 amino acids
TYPE: amino acid
STRANDENNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                          Hest Local Similarity 100.0%;
Matches 467; Conservation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CLASSIFICATION DATA:
PRIOR APPLICATION NUMBER: US/08/
APPLICATION NUMBER: US/08/
FILING DATE:
ATTORNEY/AGENT INFORMATION:
ATTORNEY/AGENT DEMnund R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NAME: Pitcher, Edmund R. TELECOMMUNICATION INFORMATION: TELEPHONE: (617) 248-7000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CURRENT APPLICATION DATA:
APPLICATION NUMBER: US,
FILING DATE:
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CITY: Bosto
STATE: Mass
COUNTRY: U.
ZIP: 02110
 421
                           421
                                                       361
                                                                                  361
                                                                                                              301
                                                                                                                                        301
                                                                                                                                                                      241
                                                                                                                                                                                               241
                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                              ь
                                                                                                                                                                                                                                                                                                                                                                                                             1 MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR 60
TLLLLAIFKKALPALPISITEGLVEYFATDYLVQPFMDQLAFHQEYI 467
                                                                                                                                                                                                                        QVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTE 120
                                                                     VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL 420
                                                                                                                             LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE
                                                                                                               GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                      LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE
                                                                                                                                                                                                                                                                                                                                                                                             MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR 60
                                                       VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US/09/124,523
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US/08/592,541
                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 2391; DB 4;
Pred. No. 9.7e-235;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 467;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                      0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                          360
                                                                                                                                                                      300
                                                                                                                                                                                                300
                                                                                                               360
```

Sequence 134, Application Patent No. 5840540; GENERAL INFORMATION

us/08967101

GENERAL INFORMATION: APPLICANT: ST. GE

GEORGE-HYSLOP,

PETER

```
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-967-101-134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
Matches 466; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME: Pitcher, Edmund R.
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 248-7000
TELEFAX: (617) 248-7100
INFORMATION FOR SEQ ID NO: 134:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE CHARACTERISTICS:
LENGTH: 467 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CORRESPONDENCE ADDRESS:
ADDRESSEE: TESTA, HURWITZ & THIBEAULT
STREET: High Street Tower - 125 High Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CLASSIFICATION: 435
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                              181
   421
                                                                        361
                                                                                                                                              301
                                                                                                                                                                              301
                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                   241 LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE 300
                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                             121 DTETVGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLEFEFSFI 180
                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: US/01 FILING DATE: 10-NOV-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STREET: High
CITY: Boston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ZIP: 02110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ٢
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR 60
                                                                                                                                                                                                                                                                                                                                                                                                                                    QVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTE 120
                                                                                                                                          MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR 60
                                                                  YLGEVFKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY 240
                                                                                                                                                                                                                                                                                                                                                                DTETVGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLFFFSFI 180
TLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI
                    TLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI 467
                                                                                                                                                                                                                                                                                      YLGEVFKTYNVAVDYITVALLIWNFGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY
                                                                                                                                                                                                                  LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ROMMENS, JOHANNA M
FRASER, PAUL E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GENETIC SEQUENCES AND PROTEINS RELATED TO ALZHEIMER'S DISEASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       99.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       08/592,541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US/08/967,101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 2387; DB 2;
Pred. No. 2.5e-234;
0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 467;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
```

밁 δõ 밁 Ş 망 Ş 밁 Ş В δ 밁 Š B Ş 밁 Ş

```
δÃ
                                   В
                                                         Š
                                                                                    В
                                                                                                       Ş
                                                                                                                                    В
                                                                                                                                                         Q
                                                                                                                                                                                   Ъ
                                                                                                                                                                                                         8
                                                                                                                                                                                                                                   ₽
                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                   Ъ
                                                                                                                                                                                                                                                                                                         Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 8
US-08-592-541-134
                                                                                                                                                                                                                                                                                                                                                                                      US-08-592-541-134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Patent No.
                                                                                                                                                                                                                                                                                                                                     Matches 466;
                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
GEORGE-HYSLOP, PETER APPLICANT: CYMENS, JOHANNA M APPLICANT: FRASER, PAUL E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELEFAX: (617) 248-71
                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE CHARACTERISTICS:
LENGTH: 467 amino acids
TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME: Pitcher, Edmund R. TELECOMMUNICATION INFORMATION: TELEPHONE: (617) 248-7000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COMPUTER READABLE FORM:
MEDIUM TYPE: Ploppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0,
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                               TOPOLOGY: 1. MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CLASSIFICATION: 800
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STREET: DAY
STREET: DAY
STREET: MASSAC
                                                                                                                                                                                   181
              361
                                     301
                                                             301
                                                                                    241
                                                                                                             241
                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STATE: M
COUNTRY:
                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                       STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADDRESSEE:
                                                                                                                                                                                                                                                                                                1 MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR 60
                                                                                                                                                                                                                                                                                   1 MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR
                                                                                                                                                                                                                                 QVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTE 120
                                                GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                   VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL
                                      GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                            YLGEVEKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMALVEIKY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               134, Application
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              02110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      598605
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Massachusetts
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          High Street Tower -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (617) 248-700
(617) 248-7100
(617) 248-7100
1 134:
                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                             linear
                                                                                                                                                                                                                                                                                                                                                                                               protein
                                                                                                                                                                                                                                                                                                                                                                                                                       single
                                                                                                                                                                                                                                                                                                                                              99.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENETIC SEQUENCES AND PROTEINS TO ALZHEIMER'S DISEASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US/08/592,541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US/08592541
                                                                                                                                                                                                                                                                                                                            Score 2387; DB 2;
pred. No. 2.5e-234;
0; Mismatches, 1;
                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            THIBEAULT
125 High Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  #1.30
                                                                                                                                                                                                                                                                                                                                                          Length 467;
                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RELATED
                                                                                                                                                                                                                                                                                                                                    0;
                                                                                                                                                                                                                                                                                                                                    Gaps
            420
                                                                                                                                                             240
                                      360
                                                              360
                                                                                                             300
                                                                                                                                     240
                                                                                                                                                                                                                                                                                     60
                                                                                     300
```

QΥ

Ъ

180

```
US-08-923-454A-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-08-923-454A-10
                                                                                                                                                                         Matches
                                                                                                                                                                                        Query Match
Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 10, Appra-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
APPLICANT: Creasy
                                                                                                                                                                                                                                                                                                                                                                                                             INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                          MOLECULE TYPE: I
HYPOTHETICAL: NO
ANTI-SENSE: NO
                                                                                                                                                                                                                                                           FRAGMENT TYPE:
ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REGISTRATION NUMBER: 33,833
REFERENCE/DOCKET NUMBER: P5
TELECOMMUNICATION INFORMATION:
TELEPHONE: 610-270-5096
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ATTORNEY/AGENT INFORMATION: NAME: Baumeister, Kirk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION UNMBER: 60/025436
FILING DATE: 06-SEPT-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE: FastSEQ Version 1.5
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Southan, Christopher TITLE OF INVENTION: HUMAN SERINE PROTEASE NUMBER OF SEQUENCES: 40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
 121 DTETVGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLFFFSFI 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STREET: 709 Swedeland Road
CITY: King of Prussia
STATE: PA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      421 TLLLLAIFKKALPALPISITEGLVEYFATDYLVQPFMDQLAFHQFYI 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361 VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL 420
                                                                                                                                                                                        Local Similarity
                                      61
                                                                     61
                                                                                                                                                                                                                                                                                                                                            TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                         TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER: IBM CO
OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COUNTRY: USA
ZIP: 19406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDIUM TYPE:
                                                                                                                    1 MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR
                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEFAX: 610-270-5090
                                                                                                                                                                                                                                                                                                                                                                                           LENGTH:
                                                      QVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTE 120
                                                                                                     MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI 467
                                  QVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Application US/08923454A
                                                                                                                                                                                                                                                                                                                                                                                        467 amino acids
                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Creasy, Caretha
Livi, George
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Clinkenbeard, Helen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Karran, Eric
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Browne, Michael
                                                                                                                                                                                                                                                                                                                                            Linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IBM Compatible
                                                                                                                                                                                                                                                                                                    .. peptide
                                                                                                                                                                                                                                                                        N-terminal
                                                                                                                                                                                        99.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US/08/923,454A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               P50547
                                                                                                                                                                                        Score 2387; DB 3; Pred. No. 2.5e-234;
                                                                                                                                                                       Mismatches
                                                                                                                                                                                                      Length 467;
                                                                                                                                                                       Indels
                                                                                                                                                                     0;
                                                                                                                                                                     Gaps
                                                                                                                                      60
                                                                                                                                                                       0;
                                                  ; MOLECULE TYPE: US-08-670-964-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-08-670-964-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 2, Patent No.
 Query Match
Best Local Similarity
                                                                                                                                                                       INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
                                                                                                                                    SEQUENCE CHARACTERISTICS:
LENGTH: 467 amino acids
                                                                                                                                                                                                                        REFERENCE/DOCKET NUMBER: P5
TELECOMMUNICATION INFORMATION:
TELEPHONE: 610-270-5219
                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: 60/0 FILING DATE: 18-JUL-1995 ATTORNEY AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                       OPERATING SYSTEM: DOS
SOFTWARE: FastSEQ for Windows Version
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
MEDIUM TYPE: Diskett
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS:
ADDRESSEE: SmithKline Beecham Corporation
STREET: 709 Swedeland Road - UW2220; P.O.
                                                                                                                                                                                                                                                                                                                                                                                          PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241 LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE 300
                                                                                 TYPE: amino acid
STRANDEDNESS: sin
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: US/08/670,964 FILING DATE: 26-JUN-1996 CLASSIFICATION: 435
                                                                                                                                                                                                      TELEFAX:
                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: 60/0 FILING DATE: 13-JUL-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COUNTRY: U:
ZIP: 19406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CITY: Philadelphia
                                                                                                                                                                                                                                                                        REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      YLGEVFKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    YLGEVFKTYNVAVDYITVALLIWNFGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Application US/08670964 6010874
                                                                                                                                                                                                                                                                                        Han, William T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Hardy,
                                                                                                                                                                                                        610-270-5090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IBM Compatible
                                                                   protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Diskette
                                                                                               single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            John A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EARLY ONSET ALZHEIMER'S DISEASE GENE AND GENE PRODUCTS
 99.8%;
99.8%;
                                                                                                                                                                                                                                                                                                                                           60/001,501
                                                                                                                                                                                                                                                                                                                                                                          60/001,142
                                                                                                                                                                                                                                                                       34,344
                                                                                                                                                                       Ν.
Score 2387; DB 3; Pred. No. 2.5e-234;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Box 15
                 Length 467
```

```
US-08-888-077A-2
REGISTRATION NUMBER: 36,629
REFERENCE/DOCKET NUMBER: SCHE
TELECOMMUNICATION INFORMATION:
TELEPHONE: (908) 654-7806
TELEPAX: (908) 654-7866
INFORMATION FOR SEQ ID NO: 2:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 2, Applic Patent No. 6020143 GENERAL INFORMATI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                  STREET: 600 SOUTH AVENUE WI
CITY: WESTFIELD
STATE: NJ
COUNTRY: USA
ZIT: 07090-1497
COMPUTER READABLE FORM:
WEDIUM TYPE: Floppy disk
                                                                                                  APPLICATION NUMBER: US/08/888,077A
FILING DATE: 03-JUL-1997
CLASSIFICATION: 530
PRIOR APPLICATION DATA: APPLICATION NUMBER: US 08/592,541
FILING DATE: 26-JAN-1996
ATTORNEY/AGENT INFORMATION:
NAME: DAILST MUMBER: US/08/888,077A
                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: ST. GEORGE-HYSLOP, PETER H
APPLICANT: ROMMENS, JOHANNA M
APPLICANT: FRASER, PAUL E
TITLE OF INVENTION: GENETIC SEQUENCES AND F
TITLE OF INVENTION: TO ALZHEIMER'S DISEASE
                                                                                                                                                                                                             OPERATING SYSTEM: PC-D
SOFTWARE: ASCII
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                             NUMBER OF SEQUENCES: 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                         COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                               ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         _
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TLLLLAIFKKALPALPISITFGLVFYFATDYLVOPFMDQLAFHQFYI 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GDPEAGRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DTETVGORALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLFFFSFI 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DTETVGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLFFFSFI 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   466;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Application US/08888077A
                                                                                                                                                                                                                                                                                                                                                               E: LERNER, DAVID, LITTENBERG, 600 SOUTH AVENUE WEST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0,
                                                             SCHERING 3.0-017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                KRUMHOLZ & MENTLIK
                                                                                                                                                                                                                                                                                                                                                                                                                           PROTEINS
                                                             CIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1;
                                                                                                                                                                                                                                                                                                                                                                                                                            USES THEREFOR.
                                                             CIP CIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                              ٧
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0;
                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 12
US-09-124-698-134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-08-888-077A-2
                                                                                                                                                                                                                                                                                                                                                                            Sequence 134, Application Patent No. 6117978
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: amino a TOPOLOGY: lir MOLECULE TYPE:
                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IEM PC compatible
COMPUTER: PC-DOS.MS-DOS
OPERATING SYSTEM: PC-DOS.MS-DOS
                                                                                                                                                                                                                                                    EMBERAL INFORMATION:
APPLICANT: ST. GEORGE-HYSLOP, PETER H
APPLICANT: ROMMENS, JOHANNA M
APPLICANT: FRASER, PAUL E
TITLE OF INVENTION: GENETIC SEQUENCES AND
TITLE OF INVENTION: TO ALZHEIMER'S DISEASE
NUMBER OF SEQUENCES: 183
CORRESPONDENCE ADDRESS:
                                                                                                                                                            STREET: High Street TO CITY: Boston STATE: Massachusetts COUNTRY: U.S.A. ZIP: 02110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE CHARACTERISTICS:
LENGTH: 467 amino acid
TYPE: amino acid
               CLASSIFICATION: PRIOR APPLICATION DATA:
                                                                         SOFTWARE: PatentIn Release #1.0, CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                           APPLICATION NUMBER:
                                             FILING DATE:
                                                                                                                                                                                                                                         ADDRESSEE:
 APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DTETVGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLFFFSFI 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTE 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TLLLLAIFKKALPALPISITEGLVEYFATDYLVQPFMDQLAFHQFYI 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTE 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             466;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DTETVGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLLFFFSFI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                          E: TESTA, HURWITZ & High Street Tower
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99.8%;
nilarity 99.8%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   acids
                                                                                                                                                                                                                                                                                                                                                                                              US/09124698
 08/592,541
                                                             US/09/124,698
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 2387;
Pred. No. 2
                                                                                                                                                                                                                          THIBEAULT
125 High S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
                                                                                       Version
                                                                                                                                                                                                                                                                                       DISEASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2.5e-234;
                                                                                                                                                                                                                             Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 3;
                                                                                                                                                                                                                                                                                                       PROTEINS RELATED
                                                                                           #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 467;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180
```

맑 S 밁 δÃ 문 ş 밁 Š 밁 20 망 Ş В Ş 밁 Ş

```
FILING DATE:
ATTORNEY/AGENT INFORMATION:
NAME: Pitcher, Edmund R.
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 248-7000
TELEPHONE: (617) 248-7100
INFORMATION FOR SEQ ID NO: 134:
SEQUENCE CHARACTERISTICS:
LENGTH: 467 amino acids
TYPE: amino acid
STRANDEDNESS: single
MOLECULE TYPE: protein
US-09-124-698-134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                                                                                                707
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 β
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ٠
و
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δõ
                                                                                                                                                                                                                                                    RESULT 13
US-09-127-480-134
                                                                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                  . - 망
                                                                                                                                                                                                                                                                                                                                                                                                              Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                            Patent No. 6194153
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Local Sir
Matches 466;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                              APPLICANT: ST. GEORGE-HYSLOP, PETER H
APPLICANT: ROMMENS, JOHANNA M
APPLICANT: FRASER, PAUL E
TITLE OF INVENTION: GENETIC SEQUENCES AND PROTEINS
TITLE OF INVENTION: TO ALZHEIMER'S DISEASE
NUMBER OF SEQUENCES: 183
            COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                   NUMBER OF SEQUENCES:
                                     STREET: High Str
CITY: Boston
STATE: Massachus
COUNTRY: U.S.A.
ZIP: 02110
                                                                                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                          ADDRESSEE: TESTA, HURWITZ &
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 MTELFAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR
                                                                                                                                                                                                                                                                                                      TLLLLAIFKKALPALPISITEGLVFYFATDYLVQPEMDQLAFHQFYI 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTE 120
                                                                                                                                                                                                                                                                                                                                                        LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                YLGEVEKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   YLGEVFKTYNVAVDYITVALLIWNFGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DTETVGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLFFFSFI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DTETVGORALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLFFFSFI 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR
                                                                                                                                                                                                                            34, Application US/09127480 6194153
                                                                Massachusetts
                                                                                         High Street Tower
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
IBM PC
compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             99.88;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 2387; DB 3; Pred. No. 2.5e-234;
                                                                                       THIBEAULT
125 High Street
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 467;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                          420
                                                                                                                                                                                                                                                                                                                                                                                                             360
                                                                                                                                                                                                                                                                                                                                                                                                                                       360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
```

```
RESULT 14
US-08-496-841C-134
; Sequence 134, Application US/08496841C
; Patent NO. 6210919
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       뫄
                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; TOPOLOGY: 1i
; MOLECULE TYPE:
US-09-127-480-134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELEPHONE: (617) 248-7100
TELEFAX: (617) 248-7100
TELEFAX: (617) 248-7100
INFORMATION FOR SEQ ID NO: 13-
SEQUENCE CHARACTERISTICS:
LENGTH: 467 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity Matches 466; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CURRENT APPLICATION NUMBER: US/09/177
ETLING DATE:
CLASSIETO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NAME: Pitcher, Edmund R. TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FILING DATE:
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                      421 TLLLLAIFKKALPALPISITFGLVEYFATDYLVQPFMDQLAFHQFYI 467
                                                                                                                                                                                                                                                                                                             361
                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: amino acid
STRANDEDNESS: sir
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR 60
                                                                      APPLICANT: ST. GEORGE-HYSLOP,
ROMMENS, JOHANNA M
FRASER, PAUL E
               CORRESPONDENCE
                             NUMBER OF SEQUENCES: 175
                                                          TITLE OF
                                                                                                                                                                                                                                                                                                                                                                                                LPEWTAWLILAVISYYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                          VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL 420
                                                                                                                                                                                                                                                                                                                                          GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTE 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR 60
                                                                                                                                                                                                                                                                                                                                                        GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTE
                                                                                                                                                                                                                                                                                  VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                          INVENTION: GENETIC SEQUENCES AND PROTEINS TO ALZHEIMER'S DISEASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                single
               ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          248-7000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             99.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US/08/592,541
Darby,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 2387; DB 4;
Pred. No. 2.5e-234;
0; Mismatches 1;
                                                                                                     PETER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .5e-234;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 467;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
```

0,

```
STRANDEDNESS: Single
TOPOLOGY: linear
MOLECULE TYPE: protein
SEQUENCE DESCRIPTION: SEQ ID NO:
US-08-496-841C-134
                     δõ
                                                 용
                                                                          S
                                                                                                         В
                                                                                                                             δ
                                                                                                                                                                 В
                                                                                                                                                                                      Ş
                                                                                                                                                                                                                       ₽
                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                     문
                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Vers:
SOFTWARE: Patentin Release #1.0, Vers:
APPLICATION DATE: 28-Jun-1995
CLASSIFICATION: - UNHOWN->
ATTORNEY/AGENT INFORMATION:
NAME: Paul F. Fehlner, Ph.D.
REGISTRATION NUMBER: 35,135
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 527-7700
TELEPHONE: (212) 753-6237
INFORMATION FOR SEO ID NO: 134:
SEQUENCE CHARACTERISTICS:
LENGTH: 467 amino acids
TYPE: amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
Matches 466; Conserv
                            421
                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                       121
  421
                                                       361
                                                                                 361
                                                                                                            301
                                                                                                                                      301
                                                                                                                                                                 241
                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                    LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE
                                                                                                                                                                                                                                    YLGEVFKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY 240
TLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI
              TLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI 467
                                                      VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL 420
                                                                                                                         GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA 360
                                                                                                          GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                               LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE
                                                                                                                                                                                                                     YLGEVFKTYNVAVDYITVALLIWNFGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CITY: New York
STATE: New York
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STREET: 805 Third
                                                                                                                                                                                                                                                                                                                                                                                                                                        99.8%;
llarity 99.8%;
Conservative 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                           0,
                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 2387; DB 4; Length 467; Pred. No. 2.5e-234; O; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                           0,
                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                 300
                                                                                                                                                                                                                       240
```

```
Ş
                                           멍
                                                             δÃ
                                                                                   В
                                                                                                        Qy
                                                                                                                             밁
                                                                                                                                              Ω
                                                                                                                                                                       Вb
                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                              망
                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                        Q
                                                                                                                                                                                                                                                                                                                                                                                             ; LENGTH: 467
; TYPE: PRT
; ORGANIZM: Caenorhabditis elegans
US-08-832-867-3
                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE OF INVENTION: DNA MOLECULES COMPRISING A PROMOTER CAPABLE OF TITLE OF INVENTION: CONFERRING EXPRESSION OF A HETEROLOGOUS DNA SEQUENCE IN TITLE OF INVENTION: ALL NEURAL CELLS AT ALL STAGES OF DEVELOPMENT IN C. TITLE OF INVENTION: ELECANS AND USES THEREOF FILE REFERENCE: 674503-2004 CURRENT APPLICATION NUMBER: US/08/832,867C CURRENT FILING DATE: 1997-04-04 NUMBER OF SEQ ID NOS: 8 SOFTWARE: PATENTIN Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
Matches 466; Conserva
                     421
                                                                                                          301
                                                                                                                                241
                                                                                                                                                    241
                                                                                                                                                                          181
                                                                                                                                                                                                                    121
  421
                                            361
                                                                361
                                                                                     301
                                                                                                                                                                                              181
                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                       TLLLLAIFKKALPALPISITFGLVEYFATDYLVOPFMDOLAFHOFYI 467
                                                                                                 GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                             VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL
                                                                                      GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                            VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL
                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                             99.8%;
                                                                                                                                                                                                                                                                                                                                                  Score 2387; DB 4;
Pred. No. 2.5e-234;
0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                       DB 4; Length 467;
                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                   0;
                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                         180
                                                                 420
                                                                                                          360
                                                                                                                                                                                                                     180
                                                                                                                                 300
                                                                                                                                                    300
                                                                                                                                                                          240
                                                                                                                                                                                               240
                                                                                      360
                                                                                                                                                                                                                                                                                                                                                    0
```

Search completed: March 14, 2003, 20:10:18 Job time : 32 secs

US-08-832-867-3 Sequence 3, Application US/08832867C Patent No. 6376239 GENERAL INFORMATION:

APPLICANT: BAUMEISTER,

THIS PAGE BLANK (USPTO)

```
Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Minimum DB
Maximum DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               90.:
                                                                                                                                                                                                                                                                                                                                                                             Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed and is derived by analysis of the total score distribution.
 2382
2377
2372
2370
2355
2357
2355
1461
1461
1461
1469.5
569.5
659.5
380
380
380
380
386.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                seq length: 0
seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                            4:
5::
5::
7::
110:
112::
113::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-689-159A-2
2391
                                                                                                                                                                                                                                                                                                      Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            199416 seqs, 46092074 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BLOSUM62
Gapop 10.0 ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              March 14, 2003, 20:10:01; Search time 17 Seconds
 999.8
999.8
999.8
999.6
999.6
999.1
155.9
155.9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Published_Applications_AA: *
                                                                                                                                                                                                                                                                                                                                                                                                                                       : /cgn2_6/ptodata/2/pubpaa/US06_NEW_PUB.pep:*
: /cgn2_6/ptodata/2/pubpaa/US06_PUBCOMB.pep:*
: /cgn2_6/ptodata/2/pubpaa/US07_NEW_PUB.pep:*
: /cgn2_6/ptodata/2/pubpaa/US07_PUBCOMB.pep:*
: /cgn2_6/ptodata/2/pubpaa/US07_PUBCOMB.pep:*
: /cgn2_6/ptodata/2/pubpaa/US08_PUBCOMB.pep:*
: /cgn2_6/ptodata/2/pubpaa/US09_NEW_PUB.pep:*
: /cgn2_6/ptodata/2/pubpaa/US09_PUBCOMB.pep:*
: /cgn2_6/ptodata/2/pubpaa/US10_NEW_PUB.pep:*
: /cgn2_6/ptodata/2/pubpaa/US10_PUBCOMB.pep:*
: /cgn2_6/ptodata/2/pubpaa/US10_PUBCOMB.pep:*
: /cgn2_6/ptodata/2/pubpaa/US60_NEW_PUB.pep:*
: /cgn2_6/ptodata/2/pubpaa/US60_NEW_PUB.pep:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MTELPAPLSYFQNAQMSEDN......ATDYLVQPFMDQLAFHQFYI 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GenCore version 5.1.4_p5_4578 Copyright (c) 1993 - 2003 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /cgn2_6/ptodata/2/pubpaa/US08_NEW_PUB.pep:*
/cgn2_6/ptodata/2/pubpaa/PCT_NEW_PUB.pep:*
                                                                                                                                                                                                                                                                                                         Length
 Gapext 0.5
   US-09-754-949-4
US-09-875-035-14
US-10-071-900-1
US-09-785-474-32
US-09-785-474-28
US-09-785-474-28
US-09-785-474-28
US-09-785-474-4
US-09-785-474-9
US-09-895-035-1
              US-09-925-299-1227
US-09-925-299-1227
US-10-051-767-10
                                                                                                                                                                                                                                                                                                       Ħ
                                                                                                                                                                                                                                                                                                                                                   SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (without alignments)
1266.176 Million cell updates/sec
                          Sequence 4, Appli
Sequence 14, Appli
Sequence 1, Appli
Sequence 2, Appli
Sequence 32, Appli
Sequence 38, Appli
Sequence 28, Appli
Sequence 12, Appli
Sequence 1, Appli
Sequence 2, Appli
Sequence 6, Appli
Sequence 1, Appli
                                                                                                                                                                                                                                                                                                      Description
Sequence
Sequence
```

4.5	44	43	42	41	40	39	38	37	36	ω 5	34	ω ω	32	31	30	29	28	27	26	25	24	23	22	21	20
93.5	94	94.5	97	97	97	97	99	101.5	107	108	108	108	108	108	110	112	120.5	206	206	243.5	256	256	308	308	344
3.9	ა . 9	4.0	4.1	4.1	4.1	4.1	4.1	4.2	4.5	4.5	4.5	4.5	4.5	4.5	4.6	4.7	5.0	8.6	8.6	10.2	10.7	10.7	12.9	12.9	14.4
850	2092	737	880	877	764	383	730	801	831	461	419	419	406	406	601	601	665	124	124	65	74	74	166	166	210
10	9	10	10	10	9	9	9	9	10	9	10	10	10	9	10	10	10	9	9	10	9	മ	9	ø	9
US-09-985-675-2	US-10-147-026-12	US-09-899-482-2	US-09-815-242-10491	US-09-815-242-4901	US-10-045-624B-2	US-09-738-626-5701	US-09-738-626-4196	US-09-738-626-3760	US-09-789-561-86	US-10-080-960-5	US-09-828-432-2	US-09-766-693-2	US-09-828-432-3	US-09-966-782A-2	US-09-782-980-84	US-09-884-430-8	US-09-942-447-2	US-10-051-767-14	US-10-051-767-8	US-09-864-761-38056	US-10-051-767-15	US-10-051-767-9	us-10-051-767-13	US-10-051-767-7	US-10-051-767-12
2	Sequence 12, Appl	Sequence 2, Appli	Sequence 10491, A	Seguence 4901, Ap	Sequence 2, Appli	Sequence 5701, Ap	Sequence 4196, Ap	Sequence 3760, Ap	Sequence 86, Appl	Sequence 5, Appli	Sequence 2, Appli	Sequence 2, Appli	Sequence 3, Appli	Sequence 2, Appli	Sequence 84, Appl	Sequence 8, Appli	Sequence 2, Appli	Sequence 14, Appl	Sequence 8, Appli	Sequence 38056, A	Sequence 15, Appl	Sequence 9, Appli	Sequence 13, Appl	Sequence 7, Appli	Sequence 12, Appl

ALIGNMENTS

```
Db
                                                                                      B
                                                                                                         ρ
                                                                                                                                    망
                                                                                                                                                                                                           δÃ
                                                           δÃ
                                                                                                                                                           Ω
                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                       US-09-754-949-4
                                                                                                                                                                                                                                     Query Match
Best Local Sim
Matches 466;
                                                                                                                                                                                                                                                                                                                                   CURRENT APPLICATION NUMBER: US/09/754,949
CURRENT FILING DATE: 2001-01-04
NUMBER OF SEQ ID NOS: 16
SQFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 4
                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
APPLICANT: MCCARTHY, JUSTIN
APPLICANT: CORDELL, BARBARA
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 4, Application US/09754949 Patent No. US20020015939A1
                                                                                                                                                                                                                                                                                                                                                                                                 TITLE OF INVENTION: METHODS FOR IDENTIFYING TITLE OF INVENTION: NEURONAL DEGENERATION FILE REFERENCE: SCIOS.012A
                                                                                                                                                                                                                                                                                                              LENGTH: 46
TYPE: PRT
                                                                                                                                                                                                                                                                                                 ORGANISM: Homo Sapien
            241
                                     181
                                                             181
                                                                                      121
                                                                                                              121
                                                                                                                                    61
                                                                                                                                                             61
                                                                                                                                                                                                                                                Local Similarity
                                                                                                                                                                                                 1 MTELPAPLSYFONAOMSEDNHLSNTVRSONDNRERQEHNDRRSLGHPEPLSNGRPOGNSR 60
                                                                                   LPEWTAMLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIXSSTMVWLVNMAE
                                                                                                                                                                                     MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR
                                                                                                                                                                                                                                                                                                                            467
                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                99.8%;
                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                     Score 2387; DB 10;
Pred. No. 2.7e-207;
0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                          INHIBITORS OF
                                                                                                                                                                                                                                                           Length
                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                               467;
                                                                                                                                                                                                                                      0
                                                                                                                                                                                                                                     Gaps
                                                                                                                                       120
                                                                                                                                                                                     60
                                      240
                                                             240
                                                                                                                                                                                                                                      0,
```

```
ρ
                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               γ
                               _B-
                                                           20
                                                                                -망
                                                                                                       - 6
                                                                                                                               - D
                                                                                                                                                       Q
                                                                                                                                                                                 -В
                                                                                                                                                                                                          δĀ
                                                                                                                                                                                                                                   B
                                                                                                                                                                                                                                                       20
                                                                                                                                                                                                                                                                                     망
                                                                                                                                                                                                                                                                                                                                    ď
                                                                                                                                                                                                                                                                                                                                                                                   Ď
                                                                                                                                                                                                                                                                                                                                                                                                         Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-878-454A-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 2
US-09-878-454A-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
   RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 3, Application US/09878454A Patent No. US20020064828A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
Matches 466; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQ ID NO 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Monteiro, et al.
TITLE OF INVENTION: Method of Controlling
FILE REFERENCE: 4115-161
CURRENT APPLICATION NUMBER: US/09/878,454A
CURRENT FILING DATE: 2001-06-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CURRENT FILING DATE: 2001-06-11
PRIOR APPLICATION NUMBER: 60/210,939
PRIOR FILING DATE: 2000-06-11
NUMBER OF SEQ ID NOS: 26
SOFTWARE: Patentin version 3.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LENGTH: 46
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                        421
                                                              421
                                                                                      361
                                                                                                              361
                                                                                                                                     301
                                                                                                                                                             301
                                                                                                                                                                                      241
                                                                                                                                                                                                              241
                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301
   ωͺ
                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                               1 MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR 60
                                    TLLLLAIFKKALPALPISITEGLVEYFATDYLVQPEMDQLAFHQEYI 467
                                                                                    GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                                    YLGEVEKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY
                                                                                                                                                                                                                                                                                                 DTETVGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLFFFSFI
                                                                                                                                                                                                                                                                                                                                   QVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTE
                                                                                                                                                                                                                                                                                                                                                 QVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                                                                                                                                                                                                                                   MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE
                                                                                                                                                                                                                                     YLGEVFKTYNVAVDYITVALLIWNFGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY
                                                                                                                                                                                                                                                                                     DTETVGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLFFFSFI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       467
                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                              99.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                   0;
                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 2387;
Pred. No. 2
                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 10;
2.7e-207;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Binding
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length
                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             of Calmyrin to Presenilin
                                                                                                                                                                                                                                                                                                                                                                                                                                                           467;
                                                                                                                                                                                                                                                                                                                                                                                                                                   0
                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                              420
                                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                                                                                                                                                   60
                                                                                                                                                           360
                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                            240
                                                                                                                                                                                                                                                                                                                                  120
                                                                                      420
                                                                                                                                       360
                                                                                                                                                                                      300
                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                                                                                                                                                   0;
Sequence 1, Application US/10071900
Patent No. US20020127541A1
GENERAL INFORMATION:
APPLICANT: St. George-Hyslop, Peter I APPLICANT: Rommens, Johanna
APPLICANT: Fraser, Paul E.
TITLE OF INVENTION: Alzheimer's Relationary of Use
FILE REFERENCE: 1034/1F810-US1
CURRENT APPLICATION NUMBER: US/10/07.
                                                                                                                                                                                                                                                                                                                                             γQ
                                                                                                                                                                                                                                                                                                                                                                                                                      DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                           ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Qy
                                                                                                                          US-10-071-900-1
                                                                                                                                     RESULT
                                                                                                                                                                                             Qy
                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                        뮍
                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                        뫄
                                                                                                                                                                                                                                                                                                                                                                                              Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                        DЬ
```

```
; OTHER INFORMATION: Incyte ID No. US20020082211A1 US-09-895-035-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-895-035-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 14, Application U Patent No. US20020082211A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOFTWARE: PERL Program
SEQ ID NO 14
                                                                                                                                                                                                                                                                                                                                                                                               Best Local Similarity
Matches 466; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Patterson, Chandra
APPLICANT: Murry, Lynn E.
APPLICANT: Kaser, Matthew R.
TITLE OF INVENTION: HUMAN PRESENTLIN VARIANT
FILE REPERENCE: PC-0047 CIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LENGTH: 467
TYPE: PRT
ORGANISM: Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR APPLICATION NUMBER: 09/116,640 PRIOR FILING DATE: 1998-07-16 NUMBER OF SEQ ID NOS: 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CURRENT APPLICATION NUMBER: US/09/895, CURRENT FILING DATE: 2001-06-29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURE:
NAME/KEY: misc_
                                                                                                                                                  241
   421
                         421
                                                   361
                                                                           361
                                                                                                   301
                                                                                                                          301
                                                                                                                                                                         241
                                                                                                                                                                                                   181
                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                TLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI
                                                YLGEVFKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY 240
                                                                                                                                                                                                                                                                DTETYGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLFFFSFI 180
                                                                                                                                                                                                   YLGEVFKTYNVAVDYITVALLIWNFGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY
                                                                                                                                                                                                                                                   DTETVGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLFFFSFI 180
                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                            99.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US/09895035
                                                                                                                                                                                                                                                                                                                                                                                                ..
                                                                                                                                                                                                                                                                                                                                                                                                            Score 2387;
Pred. No. 2
                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                           DB 10;
2.7e-207;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          g1709856
                                                                                                                                                                                                                                                                                                                                                                                                                      Length 467;
                                                                                                                                                                                                                                                                                                                                                                                                Indels
   467
                                                                                                                                                                                                                                                                                                                                                                                                0,
                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                      420
                                                                           420
                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                  60
                                                                                                                                                                                                                                                                                                                                                                         60
                                                                                                    360
                                                                                                                           360
                                                                                                                                                    300
                                                                                                                                                                                                   240
```

0;

US/10/071,900

Related Proteins

and

;

```
DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; LENGTH: 467
; TYPE: PRT
; ORGANISM: HOMO S
US-10-071-900-1
                                                                                                                                                                                                                                                                                                                                                               õ
                                                                                                                                                                                                                                                                                                                                                                                                            õ
                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                       RESULT 5
US-09-785-474-2
                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local S
Matches 466
                                                                                                                                                                                                                                                Sequence 2, Application US/09785474
Patent No. US20010012626A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CURRENT FILING DATE: 2002-02-08
PRIOR APPLICATION NUMBER: US/09/227,77
PRIOR FILING DATE: 1999-01-08
NUMBER OF SEQ ID NOS: 4
SOFTWARE: FastSEQ for Windows Version
SEQ ID NO 1
                                                                                                                                                                                                                                                                                                                                          421
                                                                                                                                                                                                                                                                                                                                                                  421
                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Match 99.8%;
Local Similarity 99.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0,
CURRENT APPLICATION DATA:
                                                                                                                                                CORRESPONDENCE ADDRESS:
ADDRESSEE: STERNE, KES
STREET: 1100 NEW YORK
                                                                                                                                                                                       NUMBER OF SEQUENCES:
                                                                                                                                                                                                            TITLE OF INVENTION: Genetic Alterations
                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                      TLLLLAIEKKALPALPISITEGLVEYFATDYLVQPEMDQLAFHQEYI 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                        LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE
                                                                                                                                                                                                                                                                                                                                                                                                                                          GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE
                                                                                                                                                                                                                                                                                                                                                                                        VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL
                                                                                                            STATE: DC
COUNTRY: USA
                                                                                                                                STREET: 1100 NEW CITY: WASHINGTON
APPLICATION NUMBER: US/09/785,474 FILING DATE: 20-Feb-2001
                                                                                                  ZIP: 20005-3934
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sapien
                                                                                                                                                                                                                           TANZI, RUDOLPH WASCO, WILMA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2002-02-08
ER: US/09/227,725
                                                                                                                                                                                                  Alzheimer's
                                                                                                                                                KESSLER, GOLDSTEIN & ORK AVENUE, SUITE 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 2387;
Pred. No. 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                  Disease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 12;
2.7e-207;
                                   Version
                                                                                                                                                                                                            Related
                                                                                                                                                            FOX P.L.L.C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length
                                                                                                                                                                                                             То
                                    30
                                                                                                                                                                                                               Familial
                                  (EPO)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          467;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                         420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         60
                                                                                                                                                                                                                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
```

```
RESULT 6
US-09-785-474-32
Sequence 32, Application US/09785474
Petent No. US20010012626A1
GENERAL INFORMATION:
APPLICANT: TANZI, RUDOLPH
APPLICANT: TANZI, RUDOLPH
GENERAL TANZIO, WILMA
                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                         덩
                                                                                                                                                                                                                                                                                                                                    δõ
                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                              Q
                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ŋ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-785-474-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: 08/706,344
FILING DATE: 30-AUG-1996
APPLICATION NUMBER: 60/003,054
FILING DATE: 31-AUG-1995
ATTORNEY/AGENT INFORMATION:
NAME: KIM, JUDITH U.
REGISTRATION NUMBER: 60,679
REFERENCE/DOCKET NUMBER: 609,4180002
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-371-2600
TELEPHONE: 202-371-2600
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches 465;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local
                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity
NUMBER OF SEQUENCES: 32
CORRESPONDENCE ADDRESS:
ADDRESSEE: STERNE, |
STREET: 1100 NEW YOU
CITY: WASHINGTON
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ш
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ب
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TOPOLOGY: linear
MOLECULE TYPE: protein
SEQUENCE DESCRIPTION: SEQ ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI
                                                                                                                                                                                                                                                             TLLLLAIFKKALPALPISITEGLVFYFATDYLVQPFMDQLAFHQFYI 467
                                                                                                                                                                                                                                                                                                                        VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL
                                                                                                                                                                                                                                                                                                                                                                                    GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                                                                                                                                                                                                                                                                              YLGEVFKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR
                                                                                                                                                                                                                                                                                                         VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL
                                                                                                                                                                                                                                                                                                                                                                    GDPEAQRRVSKNSKHNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          YLGEVFKTYNVAVDYITVALLIWNFGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CLASSIFICATION: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LENGTH: 467 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
              1100 NEW YORK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       99.6%;
                                                                          Alzheimer
              KESSLER, GOLDSTEIN ORK AVENUE, SUITE 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 2382
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                         Alterations
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       <u>8</u>
                                                                          s
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2382; DB 10;
No. 7.6e-207;
                                                                          Disease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       <u>ب</u>
                                                                                         Related
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length
                                                                                         To
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         467;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              120
                                                                                                                                                                                                                                                                                                                                        420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                         420
                                                                                                                                                                                                                                                                                                                                                                                                  360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                60
                                                                                                                                                                                                                                                                                                                                                                    360
                                                                                                                                                                                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                             300
```

```
; MOLECULE TYPE: protein ; SEQUENCE DESCRIPTION: 9 US-09-785-474-32
RESULT 7
US-09-785-474-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches 464;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            INFORMATION FOR SEQ ID NO: 32: SEQUENCE CHARACTERISTICS:
LENGTH: 467 amino acids
                                                                         421
                                                                                                             421
                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                  361
                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                \mathbf{L}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATTORNEY/AGENT INFORMATION:
NAME: KIM, JUDITH U.
REGISTRATION NUMBER: 40,679
REPERENCE/DOCKET NUMBER: 0609.4180002
TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-371-2600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ZIP: 20005-3934
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QVVEQDEEEDEELTLKYGAKHVIMLFYPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTE 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CURRENT APPLICATION DATA:
                                                                                                                                                                    VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL
                                                                                                                                                                                                                                             GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                                                                                                                                            LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE 300
                                                                                                                                                                                                                                                                                                                                                                                       YLGEVFKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY 240
                                                                                                                                                                                                                                                                                                                                                                                                                                            TLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DTETVGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLFFFSFI 180
                                                                         TLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI
                                                                                                                                                                                                                        GDPEAQRRVSKNSKHNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                                                                                                                                                                                                                      YLGEVFKTYNVAVDYITVALLIWNFGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR
                                                                                                                                                VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: amino acid
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: 08/706,344 FILLING DATE: 30-AUG-1996 APPLICATION NUMBER: 60/003,054 FILLING DATE: 31-AUG-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CLASSIFICATION: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: US/09/785,474 FILING DATE: 20-Feb-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: Patentin Release #1.0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STATE: DC
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEFAX: 202-371-2540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   99.48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQ ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ۳.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 2377; DB 10;
Pred. No. 2.1e-206;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           32:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               #1.30 (EPO)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                         467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    467;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                        360
                                                                                                                                                                                                                                                          360
                                                                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0,
```

Б

·ΩΥ 망 δ.

Δď ۰ وم

-δ 밁 -δ В 20 В QV 밁 ζΩ.

В

Sequence

30,

Application US/09785474

```
; SEQUENCE DESCRIPTION: SEQ ID NO: US-09-785-474-30
                             밁
                                                      Qy
                                                                                         Db
                                                                                                                    Qy
                                                                                                                                                                               ρ
                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                  δÃ
20
                                                                                                                                                     В
                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                        뫄
                                                                                                                                                                                                                                                                                                                                                                                                  Matches 464;
                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Patent No. US20010012626A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  INFORMATION FOR SEQ ID NO: 30:
                               301
                                                           301
                                                                                           241
                                                                                                                                                      181
                                                                                                                                                                                  181
                                                                                                                                                                                                                121
                                                                                                                        241
                                                                                                                                                                                                                                              121
 361
                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                              Local Similarity
                                                                                                                                                                                                                                                                                                                                                      1 MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: 60/003,054
FILING DATE: 31-AUG-1995
ATTORNEY/AGENT INFORMATION:
NAME: KIM, JUDITH U
REGISTRATION NUMBER: 40,679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE/DOCKET NUMBER: 0609.4180002
TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-371-2600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOFTWARE: Patentin Release #1.0,
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/785,474
FILING DATE: 20-Feb-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CORRESPONDENCE ADDRESS:
ADDRESSEE: STERNE, KESSLER,
STREET: 1100 NEW YORK AVENU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TOPOLOGY: linear MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE CHARACTERISTICS:
LENGTH: 467 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CLASSIFICATION: <Unknown> PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Alzheimer's NUMBER OF SEQUENCES: 32
                                                                                         QVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTE 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION: Genetic Alterations Related
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: TANZI, RUDOLPH
                                                GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                     YLGEVFKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY
                                                                                                                                                                                                                                                                                                                                   MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR 60
 VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL
                               GDPEAQRRVSKNSKHNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: 08/706,344 FILING DATE: 30-AUG-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEPHONE: 202-371-26
TELEFAX: 202-371-2540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STATE: DC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CITY: WASHINGTON
                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WASCO, WILMA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PatentIn Release #1.0, Version
                                                                                                                                                                                                                                                                                                                                                                                                                99.2%;
                                                                                                                                                                                                                                                                                                                                                                                                  <u>, .</u>
                                                                                                                                                                                                                                                                                                                                                                                                              Score 2372; DB 1
Pred. No. 6e-206;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AVENUE,
                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Disease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GOLDSTEIN & E, SUITE 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           30:
                                                                                                                                                                                                                                                                                                                                                                                                                              DB 10;
                                                                                                                                                                                                                                                                                                                                                                                                  2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FOX P.L.L.C
                                                                                                                                                                                                                                                                                                                                                                                                                            Length 467;
                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      To Familial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (EPO)
                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
   420
                                                                                                                        300
                                                             360
                                                                                           300
                                                                                                                                                      240
                                                                                                                                                                                  240
```

Ç

```
TOPOLOGY: linear

MOLECULE TYPE: protein

SEQUENCE DESCRIPTION: SEQ ID NO:
US-09-785-474-28
                                                                                     Š
                                                                                                                            밁
                                                                                                                                                            δÃ
                                                                                                                                                                                                밁
                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                    ş
                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 8
US-09-785-474-28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        B
                                                                                                                                                                                                                                                                      Query Match 99.1%;
Best Local Similarity 99.4%;
Matches 464; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 28, Application US/09785474 Patent No. US20010012626A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELEFAX: 202-371-2540 INFORMATION FOR SEQ ID NO: 28:
                    181
                                                        121
                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                              61
                                                                                                                                                                61
                                                                                                                                                                                                    ب
                                                                                                                                                                                                                   1 MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR APPLICATION DATA:

APPLICATION NUMBER: 08/706,344

FILING DATE: 30-AUG-1996

APPLICATION NUMBER: 60/003,054

FILING DATE: 31-AUG-1995

ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATEBATINE Release #1.0,
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME: KIM, JUDITH U.
REGISTRATION NUMBER: 40,679
REFERENCE/DOCKET NUMBER: 060
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CORRESPONDENCE ADDRESS:
ADDRESSEE: STERNE, KESSLER, GOLDSTEIN &
STREET: 1100 NEW YORK AVENUE, SUITE 600
                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE OF INVENTION: Genetic Alterations Alzheimer's Disease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQUENCES:
YLGEVFKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY
                                                                                                                                               QVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTE 120
                                                                       DTETYGORALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLFFFSFI 180
                                                                                                                                                                                                MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TLLLLAIFKKALPALPISITEGLVFYFATDYLVQPFMDQLAFHQFYI 467
                                                      DTETVGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLFFFSFI
                                                                                                                            QVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: US/09/785,474
FILING DATE: 20-Feb-2001
CLASSIFICATION: CUNKNOWN>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STREET: 1100 NEW
CITY: WASHINGTON
                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                   LENGTH: 467 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELEPHONE: 202-371-2600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TANZI, RUDOLPH WASCO, WILMA
                                                                                                                                                                                                                                                                      Score 2370; DB 10;
Pred. No. 9.1e-206;
1; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0609.4180002
                                                                                                                                                                                                                                                                                                                                                                 28:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Related
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FOX P.L.L.C
                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                          Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       #1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ō
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       . 30
                                                                                                                                                                                                                                                                                                            467;
                                                                                                                                                                                                                                                                        0,
                                                                                                                                                                                                                                                                      Gaps
                  240
                                                      180
                                                                                                                            120
                                                                                                                                                                                                60
                                                                                                                                                                                                                                                                        0,
```

```
APPLICANT: Patterson, Chandra
APPLICANT: Murry, Lynn E.
APPLICANT: Maser, Matthew R.
TITLE OF INVENTION: HUMAN PRESENILIN VARIANT
FILE REFERENCE: PC-0047 CIP
CURRENT APPLICATION NUMBER: US/09/895,035
CURRENT FILING DATE: 2001-06-29
PRIOR APPLICATION NUMBER: 09/116,640
PRIOR FILING DATE: 1998-07-16
NUMBER OF SEQ ID NOS: 14
SOFTWARE: PERL Program
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 9
US-09-895-035-12
; Sequence 12, Application U
; Patent No. US20020082211A1
                                                 Qy
                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                              Ωy
                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                    QΥ
Š
                          В
                                                                                  밁
                                                                                                         Ş
                                                                                                                                       В
                                                                                                                                                                δÃ
                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              망
                                                                                                                                                                                                                                                                                                                                                                                                                           us-09-895-035-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQ ID NO 12
LENGTH: 463
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local (
                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME/KEY: misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM: Homo sapiens FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                        OTHER INFORMATION: Incyte ID
                                                                                                                                                                                               117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301
 361
                           297
                                                      301
                                                                                                              241
                                                                                                                                          177
                                                                                                                                                                      181
                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                      57
                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                          1 MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR 60
                                                                               LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE 300
                                         GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA 360
                                                                                                                                                       YLGEVFKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY
                                                                                                                                                                                                                                                                                 QVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTE 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              YLGEVFKTYNVAVDYITVALLIWNFGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY 240
VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL 420
                                                                                                                                          YLGEVFKTYNVAVDYITVALLIWNFGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY
                                                                                                                                                                                                                                                                                                             MTELPAPLSYFQNAQMSEDNHLSNT----NDNRERQEHNDRRSLGHPEPLSNGRPQGNSR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GDPEAQRRVSKNSKHNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA 360
                          GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                                                                                                                                                                                                                   462;
                                                                                                                                                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                98.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           us/09895035
                                                                                                                                                                                                                                                                                                                                                                                                                                        No.
                                                                                                                                                                                                                                                                                                                                                                   0;
                                                                                                                                                                                                                                                                                                                                                                                Pred. No. 1.3e-204;
                                                                                                                                                                                                                                                                                                                                                                                              Score 2357;
                                                                                                                                                                                                                                                                                                                                                                                                                                     US20020082211A1 g1244638
                                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                                                                                            DB 10;
                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                              Length
                                                                                                                                                                                                                                                                                                                                                                                               463;
                                                                                                                                                                                                                                                                                                                                                                   ٠.
                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                    240
                                                                                                                                          236
                                                                                                                                                                                                                                                                                                             56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              360
                                                                                                                                                                                                                                                                                                                                                                  ۲.
```

```
D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
  - <del>Q</del>-
                                                                            g
                                                                                            -ŏ-
                                                                                                                          DЬ
                                                                                                                                             δ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 10
US-09-785-474-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                  -0
                                                                                                                                                                                                                  US-09-785-474-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 4, Application US/09785474 Patent No. US20010012626A1 GENERAL INFORMATION:
                                                                                                                                                                     Best Local Sir
Matches 462;
                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                           TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-371-2600
TELEPAR: 202-371-2540
INFORMATION FOR SEQ ID NO: 4:
            181
                                  121
                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            357
                                                                              61
                                                                                                   61
                                                                                                                                                                                 Local Similarity
                                                                                                                           _
                                                                                                                                               ۲
                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: 08/706,344
FILING DATE: 30-AUG-1996
APPLICATION NUMBER: 60/003,054
FILING DATE: 31-AUG-1995
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                               MOLECULE TYPE: protein SEQUENCE DESCRIPTION: SEQ ID NO: 4:
                                                                                                                                                                                                                                       TOPOLOGY: linear MOLECULE TYPE: protei
                                                                                                                                                                                                                                                                      SEQUENCE CHARACTERISTICS:
LENGTH: 467 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                 CLASSIFICATION: <Unknown> PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CORRESPONDENCE ADDRESS:
ADDRESSEE: STERNE, KESSLER, GOLDSTEIN & FOX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE OF INVENTION: Genetic Alterations Alzheimer's Disease NUMBER OF SEQUENCES: 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: TANZI, RUDOLPH
WASCO, WILMA
                                                                            MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR 60
          YLGEVFKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI
NAME: KIM, JUDITH U.
REGISTRATION NUMBER: 40,679
REFERENCE/DOCKET NUMBER: 06
                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: US/09/785,474 FILING DATE: 20-Feb-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CITY: WASHINGTON STATE: DC
                                                                                                                                                                                                                                                              TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STREET: 1100 NEW YORK AVENUE,
                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 20005-3934
                                                                                                                                                                                98.5%;
                                                                                                                                                                     1;
                                                                                                                                                                     Score 2355; DB 10;
Pred. No. 2.1e-204;
1; Mismatches 4;
                                                                                                                                                                                                                                                                                                                                         0609.4180002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SUITE 600
                                                                                                                                                                                           DB 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Related To Familial
                                                                                                                                                                      Indels
                                                                                                                                                                                           Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      P.L.L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (EPO)
                                                                                                                                                                                           467;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                     0;
                                                                                                                                                                     Gaps
                                                                                                                          60
           240
                                                                                                                                                                     0;
                                                                             Дb
                                                                                                                                             QΥ
                                                                                                                                                                                          Qy
                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ΩУ
           δÃ
                                  밁
                                                    Qy
                                                                                                 Qy
                                                                                                                           망
                                                                                                                                                                      В
                                                                                                                                                                                                                  Дb
                                                                                                                                                                                                                                                              DЬ
                                                                                                                                                                                                                                                                                 ρy
                                                                                                                                                                                                                                                                                                        DЬ
                                                                                                                                                                                                                                                                                                                            Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Вb
            422
                                   350
                                                                              308
                                                                                                                           248
                                                                                                                                                242
                                                                                                                                                                      188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241
                                                       362
                                                                                                   302
                                                                                                                                                                                           182
                                                                                                                                                                                                                  128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                              75
                                                                                                                                                                                                                                                                                  62
                                                                                                                                                                                                                                                                                                        24
                                                                                                                                                                                                                                                                                                                               ω
```

```
; TYPE: PRT
; ORGANISM: Homo
US-09-878-454A-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-878-454A-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Дb
                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local S
Matches 305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: PatentIn version 3.1
SEQ ID NO 1
LENGTH: 448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 1, Application US/09878454A Patent No. US20020064828A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Monteiro, et al.
TITLE OF INVENTION: Method of Controlling
FILE REFERENCE: 4115-161
CURRENT APPLICATION NUMBER: US/09/878,454A
CURRENT FILING DATE: 2001-06-11
PRIOR APPLICATION NUMBER: 60/210,939
PRIOR FILING DATE: 2000-06-11
NUMBER: OF SEQ ID NOS: 26
                                                                                                                                                                                                      122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                       Local Similarity 65.5 es 305; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TLLLLAIFKKALPALPISITFGLVEYFATDYLVQPFMDQLAFHQFYI 467
                                                                            TETVGQRALHSILNAAIMISVIVVMTILLVVLLYKYRCYKVIHAWLIISSLLLLLFFFSFIY 181
                                                                                                                                                                                                                                          VVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTED 121
-----LEEELTLKYGAKHVIMLFVPVTLCMIVVVATIKSVRFYTEKNGQLIYTPFTED 127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL 420
                PEWTAWLILAVISYYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAEG 301
                                                                                                                                                                                                                                                                                                                           ESPTPRSCQEGRQGPEDGENTAQWRSQENEEDGEEDPDRYVCSGVP-----GRPPG---- 74
                                                                                                                                                                                                                                                                                                                                                                   ELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRR-SLGHPEPLSNGRPQGNSRQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    YLGEVFKTYNVAVDYITVALLIWNFGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY
PEWSAWVILGAISVYDLVAVLCPKGPLRMLVETAQERNEPIFPALIYSSAMVWTVGMAKL
                                                                                                                                                              TPSVGQRLLNSVLNTLIMISVIVVMTIFLVVLYKYRCYKFIHGWLIMSSLMLLFLFTYIY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GDPEAQRRVSKNSKHNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LPEWTAWLILAVISVYDLVAVLRLKGPLHMLVETAQERNETLFPALIYSSTMVWLVNMAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                              61.1%; Score 1461; DB 10; 65.5%; Pred. No. 8.7e-124;
                                                                                                                                                                                                                                                                                                                                                                                                           39;
                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Binding
                                                                                                                                                                                                                                                                                                                                                                                                           ; 08
                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                               Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       of Calmyrin to
                                                                                                                                                                                                                                                                                                                                                                                                                                                 448;
                                                                                                                                                                                                                                                                                                                                                                                                           42;
                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                   61
  307
                                                                                  247
                                                                                                                                                              187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Presenilin
                                                                                                                                                                                                                                                                                                                                                                                                           8
```

LLLLAIFKKALPALPISITEGLVFYFATDYLVQPFMDQLAFHQFYI 467

DPSSQGAL--QLPYDPE-MEEDSYDSFGE---PSYPEVFEPPLTGYPG

349

DPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAAV 361

(

Gaps

8

74

127

187

```
APPLICANT: Rommens, Johanna
APPLICANT: Fraser, Paul E.
TITLE OF INVENTION: Alzheimer's Related Proteins and
TITLE OF INVENTION: of Use
FILE REFERENCE: 1034/1F810-US1
CURRENT APPLICATION NUMBER: US/10/071,900
CURRENT FILING DATE: 2002-02-08
PRIOR APPLICATION NUMBER: US/09/227,725
PRIOR APPLICATION NUMBER: US/09/227,725
PRIOR FILING DATE: 1999-01-08
NUMBER OF SEG ID NOS: 4
SOFTWARE: FastSEQ for Windows Version 3.0
                                                                                                                                                       RESULT 13
US-09-754-949-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; TYPE: PRT
; ORGANISM: HOMO
US-10-071-900-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-10-071-900-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local S
Matches 305
                                                                                               Sequence 6, Application US/09754949 Patent No. US20020015939A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 2, Application US/10071900 Patent No. US20020127541A1 GEMERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQ ID NO 2
                     APPLICANT: MCCARTHY, JUSTIN
APPLICANT: CORDELL, BARBARA
TITLE OF INVENTION: METHODS FOR IDENTIFYING INHIBITORS
TITLE OF INVENTION: NEURONAL DEGENERATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: St. George-Hyslop,
APPLICANT: Rommens, Johanna
APPLICANT: Fraser, Paul E.
   FILE REFERENCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ENGTH: 448
                                                                                                                                                                                                                                    403
                                                                                                                                                                                                                                                                                                              350
                                                                                                                                                                                                                                                                                                                                                  362
                                                                                                                                                                                                                                                                                                                                                                                        308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         403
                                                                                                                                                                                                                                                                                                                                                                                                                        302 DPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAAV 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        24 ESPTPRSCQEGRQGPEDGENTAQWRSQENEEDGEEDPDRYVCSGVP-----GRPPG----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3 ELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRR-SLGHPEPLSNGRPQGNSRQ
                                                                                                                                                                                                                                                                                                        QELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCLT 421
:|| |------EEEEERGVKLGLGDFIFYSVLVGKAAATGSGDWNTTLACFVAILIGLCLT 402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LGEVFKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKYL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTED
-----LEEELTLKYGAKHVIMLFVPVTLCMIVVVATIKSVRFYTEKNGQLIYTPFTED
                                                                                                                                                                                                                               PEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TPSVGQRLLNSVLNTLIMISVIVVMTIFLVVLYKYRCYKFIHGWLIMSSLMLLFLFTYIY
                                                                                                                                                                                                                                                                                                                                                                                        DPSSQGAL - - QLPYDPE - MEEDSYDSFGE - - - PSYPEVFEPPLTGYPG - - - -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LLLLAVFKKALPALPISITFGLIFYFSTDNLVRPFMDTLASHQLYI 448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                PEWSAWVILGAISVYDLVAVLCPKGPLRMLVETAQERNEPIFPALIYSSAMVWTVGMAKL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LGEVLKTYNVAMDYPTLLLTVWNFGAVGMVCIHWKGPLVLQQAYLIMISALMALVFIKYL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                tch 61.1%; al Similarity 65.5%; 305; Conservative 3
   SCIOS.012A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; Score 1461; DB 12;
; Pred. No. 8.7e-124;
39; Mismatches 80;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Peter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 448;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Methods
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    42;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        74
                                                                                                                                                                                                                                                                                                                                                                                      349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; LENGTH: 448
; TYPE: PRT
; ORGANISM: HOMO S
US-09-754-949-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 14
US-09-895-035-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Б
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CURRENT APPLICATION NUMBER: US/09/754,949
CURRENT FILING DATE: 2001-01-04
NUMBER OF SEQ ID NOS: 16
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 6
                                                                                                                                                   SOFTWARE: PERL Program
SEQ ID NO 1
LENGTH: 180
                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 1, Application US Patent No. US20020082211A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                              APPLICANT: Patterson, Chandra
APPLICANT: Murry, Lynn E.
APPLICANT: Kaser, Matthew R.
APPLICANT: Kaser, Matthew R.
TITLE OF INVENTION: HUMAN PRESENTLIN VARIANT
FILE REFERENCE: PC-0047 CIP
CURRENT APPLICATION NUMBER: US/09/895,035
CURRENT FILING DATE: 2001-06-29
CURRENT FILING DATE: 2001-06-29
                                                                                                                                                                                                           PRIOR APPLICATION NUMBER: 09/116,640 PRIOR FILING DATE: 1998-07-16 NUMBER OF SEQ ID NOS: 14
                                                   NAME/KEY: misc_feature
OTHER INFORMATION: Incyte ID No. US20020082211A1 1353337CD1
                                                                                               FEATURE:
                                                                                                               ORGANISM: Homo sapiens
                                                                                                                                   TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local 304;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  182 LGEVFKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKYL 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               122 TETVGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLFFFSFIY 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LLLLAIFKKALPALPISITFGLVEYFATDYLVQPFMDQLAFHQFYI 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRR-SLGHPEPLSNGRPQGNSRQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LLLLAVFKKALPALPISITFGLIFYFSTDNLVRPFMDTLASHQLYI 448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DPSSQGAL--QLPYDPE-MEEDSYDSFGE---PSYPEVFEPPLTGYPG-------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAAV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PEWSAWVILGAISVYDLVAVLCPKGPLRMLVETAQERNEPIFPALIYSSAMVWTVGMAKL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TPSVGQRLLNSVLNTLIMISVIVVMTIFLVVLYKYRCYKFIHGWLIMSSLMLLFLFTYIY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -----LEEELTLKYGAKHVIMLFVPVTLCMIVVVATIKSVRFYTEKNGQLIYTTFTED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ESPTPRSCQEGRQGPEDGENTAQWRSQENEEDGEEDPDRYVCSGVP-----GRPPG----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LGEVLKTYNVAMDYPTLLLTVWNFGAVGMVCIHWKGPLVLQQAYLIMISALMALVFIKYL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                            Application US/09895035
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     60.8%; ilarity 65.2%; Conservative 39
 33.48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           39;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 1453; DB 10;
Pred. No. 4.6e-123;
9; Mismatches 81;
 Score
 798.5;
 В
 10;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 448;
Length 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         42;
```

301

247

402 421 349 361 307 ő

밁 Ş 밁 Q ₽ Ş В δ 밁 Ş 망 8 밁 δ

```
APPLICANT: Roberts, Susan

APPLICANT: Pak, Roger

APPLICANT: Lewis, Martin

APPLICANT: Lewis, Martin

APPLICANT: Hendrick, Joseph

APPLICANT: Winitsky, Alexander

TITLE OF INVENTION: ISOLATION OF FUNCTIONALLY ACTIVE GAMMA-SECRETASE PROTEIN COMPLEX

TITLE OF INVENTION: METHODS FOR DETECTION OF ACTIVITY AND INHIBITORS THEREOF

FILE REFERENCE: DO004

CURRENT APPLICATION NUMBER: US/09/823,153

CURRENT APPLICATION NUMBER: US/09/823,153

CURRENT FILING DATE: 2001-07-02

NUMBER OF SEQ ID NOS: 11

SOFTWARE: PatentIn version 3.0

SEQ ID NO 8

LENGTH: 354

TYPE: PRT
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                       FEATURE:
NAME/KEY: misc_feature
OTHER INFORMATION: Description of Artificial Sequence:
US-09-823-153-8
Search completed: March 14, Job time: 20 secs
                                           -g- 8
                                                                                                                  Qy
                                                                                                                                            В
                                                                                                                                                                 δÃ
                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 15
US-09-823-153-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                            В
                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         _
מ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             νQ
                                                                                                                                                                                                                                        Query Match
Best Local Similarity
Matches 138; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 8, Application US/09823153
Patent No. US20020025540A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity 89.6 Matches 164; Conservative
                                               353
                                                                                                                                                                                                                239 KYL--PEWTAWLILAVISVY------DLVAVLCPKGPLRMLVETAQERNETLFPALI 287
                                                                      408
                                                                                              293
                                                                                                                    348
                                                                                                                                             233
                                                                                                                                                                    288
                                                                                                                                                                                         191 KYLKSSKYIAWPLQGWQATFGGGDHPPKSDLV----PRG-------SLFPALI 232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              172 WLG 174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181 YLG 183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          \vdash
                                                                                            IA 354
                                                                      IA 409
                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                     27.6%;
75.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   89.6%;
            2003,
                                                                                                                                                                                                                                          7; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pred. No. 1.4e
3; Mismatches
            20:13:57
                                                                                                                                                                                                                                                     Score 659.5; DB 10; Pred. No. 1.3e-51;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      . 1.4e-64;
7;
                                                                                                                                                                                                                                          8;
                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                               Length
                                                                                                                                                                                                                                                                                                     PS1 PEPTIDE
                                                                                                                                                                                                                                          29;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9;
                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                          4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ω,.
```

```
GenCore version 5.1.4_p5_4578
Copyright (c) 1993 - 2003 Compugen Ltd.

OM protein - protein search, using sw model

Run on: March 14, 2003, 19:20:34; Search time 27 Seconds (without alignments)
1662.769 Million cell updates/sec

Title: US-09-689-159A-2
Perfect score: 2391
Sequence: 1 MTELPAPLSYFQNAQMSEDN......ATDYLVQDFMDQLAFHQFYI 467

Scoring table: BLOSUM62
Gapop 10.0, Gapext 0.5

Searched: 283224 seqs, 96134422 residues

Total number of hits satisfying chosen parameters: / 283224

Minimum DB seq length: 0
Maximum DB seq length: 2000000000
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Database :

PIR_73:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

SUMMARIES

29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	ω	2	1	. Ko	Result
107.5	108	108.5	109	110	110.5	112	114	115.5	•	120.5			312.5	511	539	546.5	968.5	1059.5	1381.5	1453	1460.5	1593	1804	2237	2245	2275	2357	2387	Score	
۵.	4.5	4.5	4.6	4.6	4.6	4.7	4.8	4.8	5.0	5.0	5.2	5.2	13.1	21.4	22.5	22.9	40.5	44.3	57.8	60.8	61.1	66.6	•	93.6	•	95.1	•	99.8	Match	Query
887	364	488	389	601	598	601	318	339	323	309	455	2386	465	358	397	453	461	836	442	448	449	374	433	467	463	467	463	467	Length	
Ν.	N	N	Ŋ	N	N	N	N	N	N	ນ	N	N	N	N	N	N	N	2	N	N	N	Ν	N	N	N	N	N	2	DB.	
S73768	D95959	S46118	AE1747	JH0170	T05130	S12004	B84291	C71132	A48997	H90548	H97237	T39911	T27885	T15184	A84702	T00724	S60253	E89453	139174	A56993	JC5391	S63684	JC5390	178388	JC5081	JC5080	S63683	S58396	ID	
MG277 homolog F11_	conserved hypothet	probable glucose t	cell division prot	m.	hypothetical prote	tyramine receptor			tumor surface anti	hypothetical prote		rad3 checkpoint pr	sperm membrane pro	presenilin-beta ho	probable presenili	presenilin homolog	sel-12 protein - C	protein F35H12.3 [seven trans-membra	presenilin 2 - hum	-beta -	ŗ	enilin-alph	tein	_	H	presenilin I-463 -	presenilin 1, spli	Description	

ALIGNMENTS

RESULT 1 S58396

Qy 61 QVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTE 120	QY 1 MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR 60	Query Match 99.8%; Score 2387; DB 2; Length 467; Best Local Similarity 99.8%; Pred. No. 1.5e-178; Matches 466; Conservative 0; Mismatches 1; Indels 0; Gaps 0;	F:244-264/Domain: transmembrane #status predicted <tm6> F:281-301/Domain: transmembrane #status predicted <tm7> F:408-428/Domain: transmembrane #status predicted <tm8> F:433-453/Domain: transmembrane #status predicted <tm9> F:279,405/Binding site: carbohydrate (Asn) (covalent) #status predicted</tm9></tm8></tm7></tm6>	F;82-100/Domain: transmembrane #status predicted <tm1> F;133-154/Domain: transmembrane #status predicted <tm2> F;164-185/Domain: transmembrane #status predicted <tm3> F;165-213/Domain: transmembrane #status predicted <tm4> F;221-238/Domain: transmembrane #status predicted <tm5></tm5></tm4></tm3></tm2></tm1>	A;Gene: GDB:PSEN1; AD3; FAD; S182; PS1 A;Cross references: GDB:135682; OMIM:104311 A;Map position: 14924.3 -14924.3 C;Superfamily: preseniln C;Keywords: alternative splicing; Alzheimer's disease; glycoprotein; transmembrane pr	A;Status: not compared with conceptual translation A;Molecule type: mRNA A;Molecule type: mRNA A;Residues: 24-32;254-256,290-292;316-317,376-379, <viw> . A;Experimental source: Dami megakaryotic cell line (ATCC CRL-9792) and platelets C:Genetics:</viw>	A;Cross-references: EMBL:L42110; NID:g904118; PIDN:AAB46416.1; PID:g904119 R;Vidal, R.; Ghiso, J.; Wisniewski, T.; Frangione, B. FEBS Lett. 393, 19-23, 1996 A;Title: Alzheimer's presenilin 1 gene expression in platelets and megakaryocytes. Id A;Reference number: S71401; MUID:96397521; PMID:8804415 A;Accession: S71401	Nature 375, 754-760, 1995 A;Title: Cloning of a gene bearing missense mutations in early-onset familial Alzheim A;Reference number: I58095; MILD: 95319502; PMID: 7596406 A;Accession: S58396 A;Molecule type: mRNA A;Residues: 1-467 <she></she>	presentlin 1, splice form 467 - human presentlin 1, splice form 467 - human N;Alternate names: Alzheimer's disease protein 3; protein S182 C;Species: Homo sapiens (man) C;Date: 29-Jan-1998 #sequence_revision 13-Feb-1998 #text_change 29-Sep-1999 C;Accession: S58396; S71401; S71402 R;Sherrington, R; Rogaev, E.I.; Liang, Y; Rogaeva, E.A.; Levesque, G.; Ikeda, M.; C ero, I.; Pinessi, L; Rogaev, E.I.; Chumakov, I.; Pollen, D.; Brookes, A.; Sanseau, P.; Po

463 467

Petter, A.; of the

Bons,

z

presenilin

ш gene Bell 20-Jun-2000

seven

transmembrane

gon

PID:g1707592

```
'A;Title: Identification and characterization of presentlin ha;Reference number: $63683; MUID:96193901; PMID:8641442 A;Accession: $63683 and identification of presentlin ha;Reference number: $63683 and identification of presentlin ha;Reference in the presentlin of the presentlin of the presentlin ha;Reference in the presentlin of the presentlin in the present in t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 2

S63883

presenilin I-463 - human

C:Species: Homo sapiens (man)

C:Date: 20-Jul-1996

C:Accession: S63683

R:Sahara, N.; Yahagi, Y.; Takagi, H.; Kondo, T.; Ok

REBS Lett. 381, 7-11, 1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              рb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ρ
-B- 정
                                                                     -₽- Ø
                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    뭥
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ွ်စ္
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DЬ
                                                                                                                                                   -₽
                                                                                                                                                                                                                                            망~
                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                          D'
                                                                                                                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                                                                                              ᄝ
                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local S
Matches 462
                                           301
                                                                                  237
                                                                                                                     241
                                                                                                                                                                177
                                                                                                                                                                                                     181
                                                                                                                                                                                                                                            117
                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                          57
                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                        _
                                                                                                                                                                                                                                                                                                                                                                                                                                             ۲
                        GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                    LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE
                                                                                                                                                                                  YLGEVFKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY
                                                                                                                                                                                                                                                              DTETVGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLFFFSFI
                                                                                                                                                                                                                                                                                                                                               QVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTE
                                                                                                                                                                                                                                                                                                                                                                                                                         MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQEYI 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                              YLGEVFKTYNVAVDYITVALLIWNFGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY
                                                                                                                                                                                                                                            DTETVGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLFFFSFI
                                                                                                                                                                                                                                                                                                                        QVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTE
                                                                                                                                                                                                                                                                                                                                                                                                      MTELPAPLSYFQNAQMSEDNHLSNT----NDNRERQEHNDRRSLGHPEPLSNGRPQGNSR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         98
86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       . 68;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NID: g1244637; PIDN: AAB05894.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score
Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2357;
No. 3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Okochi,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                #text_change
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           :
:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      I-467,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Usami,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PID:g1244638
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                29-Sep-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      I-463 and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           M.; Shirasawa,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                 240
                                                                                                                                                                                                                                            176
                                                                                                                                                                                                                                                                                                                          116
                                                                                                                                                                                                                                                                                                                                                                                                    56
                                                                                                                                                                                                                                                                                                                                                                                                                                           60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           180
    356
                                           360
                                                                                                                       300
                                                                                296
                                                                                                                                                              236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Map Position: 14

C; Superfamily: presenilin
C; Keywords: transmembrane protein
C; Keywords: transmembrane #status pre
F; 82-100/Domain: transmembrane #status pre
F; 133-154/Domain: transmembrane #status pr
F; 164-185/Domain: transmembrane #status pr
F; 195-213/Domain: transmembrane #status pr
F; 221-238/Domain: transmembrane #status pr
F; 244-261/Domain: transmembrane #status pr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           R;Calenda, A.; Mestre-Frances, N.; Czech, C.; Pradier, L.; Pe Blochem. Blophys. Res. Commun. 228, 430-439, 1996
A;Title: Molecular cloning, sequencing, and brain expression A; Reference number: JC5080; MUID:97079199; PMID:8920931
A;Accession: JC5080
A;Status: nucleic acid sequence not shown A;Molecule type: mRNA A;Residues: 1-467 <CAL>
Qy
                                                                       Qy
                                                                                                                     В
                                                                                                                                                        2
                                                                                                                                                                                                     В
                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                   망
                                                                                                                                                                                                                                                                                                                      Ωy
                                                                                                                                                                                                                                                                                                                                                                                                Q
                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Cross-references: EMBL:271:
A;Experimental source: brain
C;Comment: This protein is ar
C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     presentilin 1 protein isoform 467 - lesser mouse lemur C;Species: Microcebus murinus (lesser mouse lemur) C;Date: 31-Jan-1997 #sequence_revision 31-Jan-1997 #text_change C;Accession: JC5080
                                           DЬ
                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Gene: ps1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
Matches 443; Conser
    421
                                           361
                                                                                361
                                                                                                                       301
                                                                                                                                                            301
                                                                                                                                                                                                     241
                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ш
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                \vdash
                                                                                                                                                                                                   MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR
                                       YLGEVEKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY
                                                                                                                                                                                                                                                                                                                                                                               DTETVGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLFFFESFI 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                QVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTE 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI
                                                                                                                                                            GDPEAQRRVSKNSKYNAESTERESODTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA 360
                                                                                                                                                                                                                                                                                   YLGEVFKTYNVAVDYTTVALLIWNFGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY
                                                                                                                                                                                                                                                                                                                                                                                                                                             PVVERDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         \tt MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNREQQDHGDRRLGNPEPLSNGRPQGNSG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI
                                                                                                                                                                                                                                                                                                                                                               DTETVGQRALHSVLNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLFFFSFI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL: Z71333; NID: g1707591;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        95.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     intergral membrane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score
Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               predicted
predicted
predicted
predicted
predicted
predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2275; DB 2
No. 8e-170;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PIDN:CAA95930.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    <TM1>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     protein with
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   <TM2>
<TM3>
<TM4>
<TM5>
<TM6>
<TM7>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2:
```

Length

0;

Gaps

0

120

60 60

420 420

360

မှ ဂ

```
A;Map position: 14
C;Superfamily: presentlin
C;Keywords: transmembrane protein
F;78-96,Domain: transmembrane #status predicted <TMl>
F;129-150/Domain: transmembrane #status predicted <TMl>
F;100-181/Domain: transmembrane #status predicted <TMl>
F;110-209/Domain: transmembrane #status predicted <TMl>
F;217-234/Domain: transmembrane #status predicted <TML
F;240-257/Domain: transmembrane #status predicted <TML
F;340-257/Domain: transmembrane #status predicted <TML
F;340-4424/Domain: transmembrane #status predicted <TML
F;340-458/Domain: transmembrane #status
RESULT
178388
S182 p
                                                                                                         망
                                                                                                                                     Š
                                                                                                                                                                            D
                                                                                                                                                                                                                 Q
                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                무 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A:Residues: 1-463 <CAL>
A:Cross-references: EMBL:Z71333
C:Comment: This protein is an i
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   R;Calenda, A.; Mestre-Frances, N.; Czech, C.; Pradier, L.; Po
Biochem. Biophys. Res. Commun. 228, 430-439, 1956
A;Title: Molecular cloning, sequencing, and brain expression
A;Reference number: JC5080; MUID:97079199; PMID:8920931
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        presenilin 1 protein isoform 463 - lesser mouse lemur
C:Species: Microcebus murinus (lesser mouse lemur)
C:Date: 31-Jan-1997 #sequence_revision 31-Jan-1997 #text_change 13-Sep-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Gene: psl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Status: nucleic acid sequence A;Molecule type: mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Contents: brain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           C; Accession:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A; Accession: JC5081
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
    protein
                                                                                                                                                  421
                                                                                                                                                                                                                                                                           297
                                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                                           177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                         417
                                                                                                                                                                                         357
                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                           237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ٢
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR
                                                                                                     TLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI
                                                                                                                                                                                                                                                                    LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE
                                                                                                                                                                                                                                                                                                                                                                                                                                    DTETVGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLEFESFI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DTETVGQRALHSVLNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLFFFSFI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI
                                                                                                                                                                                                                                                                                                                                                      LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            al Similarity
439; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JC5081
    mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             93.98;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           intermembrane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           not
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 2245; D
Pred. No. 1.7e
11; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             shown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           protein with seven transmembrane domains.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 2;
L.7e-167;
nes 13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  <TM1>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <TM2>
| <TM3>
| <TM4>
| <TM5>
| <TM6>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                              467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             467
                                                                                                         463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Petter, A.; Bons,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0f
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           presenilin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          116
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   60
                                                                                                                                                                                                                                                                         356
                                                                                                                                                                                                                                                                                                                360
                                                                                                                                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                                                         296
                                                                                                                                                                                                                                                                                                                                                                                                                                        236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    z
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ۲.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             <u>_</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Bellis
               A;Molecule type: mRNA
A;Residues: 1-433 <TSU>
A;Cross-references: DDBJ:DB4427; NID:g1944353; PIDN:BAA19570.1;
A;Experimental source: brain
C;Comment: This protein plays a role in negative regulation of a
C;Superfamily: presentlin
C;Superfamily: presentlin
C;Superfamily: presentlin
C;Superfamily: presentlin
                                                                                                                                                             R;Tsujimura, A.; Yasojima, K.; Hashimoto-Gotoh, T. Biochem. Biophys. Res. Commun. 231, 392-396, 1997 A;Title: Cloning of Xenopus presenilin-alpha and -beta (A;Reference number: JC5390; MUID:97223465; PMID:9070286 A;Accession: JC5390 A;Status: nucleic acid sequence not shown
                                                                                                                                                                                                                                                                                        presenilin-alpha - African clawed frog
C;Species: Xenopus laevis (African clawed frog)
C;Date: 04-Jun-1997 #sequence_revision 18-Jul-1997
C;Accession: JC5390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Вp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              당
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            C; Superfamily: presenilin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Cross-references: GB:L42177;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Molecule type: mRNA
A; Residues: 1-467 < RES>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Status: preliminary; translated
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
  transmembrane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                93.6%;
  #status
```

predicted

apoptotic PID:g1944354

cascades

#text_change

20-Jun-2000

CDNAS

and

their differential

```
R;Sherrington, R.; Rogaev, E.I.; Liang, Y.; Rero, I.; Pinessi, L.; Nee, L.; Chumakov, I.; El; Rommens, J.M.; St George-Hyslop, P.H. Nature 375, 754-760, 1995

A;Title: Cloning of a gene bearing missense margered number: 158095; MUID:95319502; PMA;A;Accession: 178388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                C; Species: Mus musculus (house mouse)
C; Date: 27-Feb-1997 #sequence_revision
C; Accession: 178388
                                                                                                                                                                                                                                                                                                                                                                                                       TLLLLAIFKKALPALPISITEGLVFYFATDYLVQPFMDQLAFHQEYI 467
                                                        GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                                        LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE
                                                                                                                                                                                                                                                 YLGEVFKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY
                                                                                                                                                                                                                                                                                        GDPEAQRRVPKNPKYNTQRAERETQDSGSGNDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                          LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE
                                                                                                                                                                                                                                  YLGEVFKTYNVAVDYVTVALLIWNFGVVGMIAIHWKGPLRLQQAYLIMISALMALVFIKY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NID:g904129; PIDN:AAC42094.1; PID:g904130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 2237;
Pred. No. 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              27-Feb-1997 #text_change 29-Sep-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         e mutations in PMID:7596406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Rogaeva,
; Pollen,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; DB 2;
7.4e-167;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    E.A.; Levesque, (D.; Brookes, A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        early-onset
                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    G.; Ikeda,
; Sanseau,
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           familial
                                                                                                                                                                                                                                                             240
                                                                                      420
                                                                                                                                            360
                                                                                                                                                                                                                                                                                         180
                                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                          60
                                                                                                                                                                                                                                                                                                                                                                                                                                   60
                                                             420
                                                                                                                   360
                                                                                                                                                                                                     300
                                                                                                                                                                                                                                  240
                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ikeda,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     P.;;
```

```
F;130-149/Domain: t
F;161-178/Domain: t
F;187-203/Domain: t
F;210-227/Domain: t
F;374-394/Domain: t
                                                                                                                                                                                             presentlin 1, splice form 374 - human
N;Alternate names: Alzheimer's disease protein 3
C;Species: Homo sapiens (man)
C;Date: 20-Jul-1996 #sequence_revision 13-Mar-1997 #text_ch
C;Accession: S63684
R;Sahara, N.; Yahagi, Y.; Takagi, H.; Kondo, T.; Okochi, M.
FEBS Lett. 381, 7-11, 1996
A;Title: Identification and characterization of presentlin
A;Reference number: S63683; MUID:96193901; PMID:8641442
A;Accession: S63684
A;Cession: S63684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Вр
                                                                                         C;Genetics:
A;Gene: GDB:PSEN1; AD3; FAD; S1(
A;Cross-references: GDB:135682;
A;Map position: 14q24.3-14q24.3
C;Superfamily: presentlin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             γQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                     õ
                                                                                                                                                    A;Status: preliminary; nucleic
A;Molecule type: mRNA
A;Residues: 1-374 <SAH>
A;Cross-references: EMBL:U40380
                                                                                                                                                                                                                                                                                                                    RESULT
S63684
                                                                                                                                                                                                                                                                                                                                                                                     γQ
                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                             B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δÃ
  ď
                                                           Query
Best I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local S
Matches 357
                                                Matches
                                                                                                                                                                                                                                                                                                                                                                     424
                                                                                                                                                                                                                                                                                                                                                                                          458
                                                                                                                                                                                                                                                                                                                                                                                                                 364
                                                                                                                                                                                                                                                                                                                                                                                                                                       398
                                                                                                                                                                                                                                                                                                                                                                                                                                                              304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   279
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               159
                                                         Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          39
                         ı
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    σ
              MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SERRSNENSESQSNGQTQSSSQQVLEQDEEEDELTLKYGAKHVIMLFVFVTVLCMVVVVA
                                                                                                                                                                                                                                                                                                                                                                                       DOLAFHOFYI 467
                                                                                                                                                                                                                                                                                                                                                                                                              ATASGDWNTTIACEVAILIGLCLTLLLLAIEKKALPALPISITEGLVFYFATDYLVQPEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                              TTWEDHRNAQIGPINSTPESRVAVQALPSNSPPSEDPEERGVKLGLGDFIFYSVLVGKAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EEWEAQRDSHLGPHRSTPESRAAVQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NETLFPALIYSSTMVWLVNMAEGDPEAQRRVSKNSKYNAES-TERESQDTVAENDDGGFS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LLLQQAYLIMISALMALVFIKYLPEWTTWLILAVISVYDLVAVLSPKGPLRMLVETAQER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LRLQQAYLIMISALMALVFIKYLPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NDRRSLGHPEPLSNGRPQGNSRQVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVA 98
  MTELPAPLSYFQNAQMSEDNHLSNT---
                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      transmembrane #status
transmembrane #status
transmembrane #status
transmembrane #status
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               transmembrane
                                                                                                                                                                                                                                                                       #sequence_revision 13-Mar-1997 #text_change
                                                                                                                                                      EMBL: U40380;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           75.4%;
83.0%;
                                                         66.68;
98.4%;
                                                                                                                                                                                                                                                Takagi, H.; Kondo, T.; Okochi, M.;
                                                                                                                              S182; PS1
                                                                                                                                                                                        acid
                                                                                                                  OMIM:104311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            #status
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               27;
                                           Score 1593; DB 2
Pred. No. 1e-116;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 1804; D:
Pred. No. 4.1e
27; Mismatches
                                                                                                                                                    NID: g1244639;
                                                                                                                                                                                        sequence
  ·NDNRERQEHNDRRSLGHPEPLSNGRPQGNSR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           predicted
predicted
predicted
predicted
predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1804; DB 2;
No. 4.1e-133;
                                                                                                                                                                                        not
                                                                                                                                                      PIDN: AAB05895
                                                                                                                                                                                        shown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            <TM3><TM4><<TM4><<TM5><<TM6><<TM7>
                                                                    ν,
                                                                    Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 433;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                         I-467,
                                                                                                                                                      <u>.</u>_
                                                                                                                                                                                                                                                Usami,
                                                                                                                                                                                                                                                                      29-Sep-1999
                                                                                                                                                    PID:g1244640
                                                                                                                                                                                                                         I-463 and
                                                                                                                                                                                                                                                 M.; Shirasawa,
                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           158
  56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            218
                                                                                                                                                                                                                                                                                                                                                                                                                                                             363
                                                                                                                                                                                                                          I-374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ν,
                                                                    DЬ
                                                                                                                                       Qy
                                                                                                                                                                Дb
                                                                                                                                                                                     Qy
                                                                                                                                                                                                              B
                                                                                                                                                                                                                                    Qy
Ş
                       뭥
                                           Qy
                                                                                          Qy
                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       망
                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Molecule type: mRNA
A; Residues: 1-449 <TSU>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
Matches 301; Conserv
 298
                        247
                                                                     187
                                                                                                                   127
                                                                                                                                         118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                70
                                                                                                                                                                                        58
                                                                                                                                                                                                               21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                      N
                                                                                                                                                               MAEGDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPES
                                                                                                                              FTEDTETVGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLFFFF
                                                                                                                                                                                                               SESPPLPSYQDGVQASEGLETSY-----HRERQPDSTQNN----EDVPNGRTSGADAY
                                                                                                                   FSEDTTSVGERLLNSVLNTLIMISVILVMTIFLVLLYKYRCYKFIHGWLILSSLMLLFMF
```

357 306 297 246 237 186

7

```
A;Cross-references: DDBJ:D84428; NID:g1944355; PIDN:BAA19571.1; A;Experimental source: brain C;Comment: This protein plays a role in negative regulation of a C;Superfamily: presenilin C;Superfamily: presenilin E;91-109/Domain: transmembrane #status predicted <TMI>
                                                                                                                                                                                                                                                                                                                                                    Biochem. Biophys. Res. Commun. 231, 392-396, 1997
A;Title: Cloning of Xenopus presentlin-alpha and -beta cap. Reference number: JC5390; MUID:97223465; PMID:9070286
A;Accession: JC5391
A;Status: nucleic acid sequence not shown
A;Molecule type- mpun
                                                                                                                       F;142-162/Domain: transmembrane
F;173-192/Domain: transmembrane
F;204-221/Domain: transmembrane
F;230-246/Domain: transmembrane
F;252-279/Domain: transmembrane
F;390-410/Domain: transmembrane
                                                                                                                                                                                                                                                                                                                                                                                                                                                          presenilin-beta - African clawed frog
C;Species: Xenopus laevis (African clawed frog)
C;Date: 04-Jun-1997 #sequence_revision 18-Jul-1997
C;Accession: JC5391
R;Tsujimura, A.; Yasojima, K.; Hashimoto-Gotoh, T.
TELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQG----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GDPEAQRRVSKNSKYNAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GDPEAQRRVSKNSKYNAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  YLGEVFKTYNVAVDYITVALLIWNFGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   YLGEVEKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMALVEIKY
                                                     Conservative
                                                                     61.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      318
                                                                                                                       #status predicted
#status predicted
                                                                                                                                                                             #status predicted
                                                   48;
                                                                                                                                                                                                                     #status
                                                  Score 1460.5;
Pred. No. 2.8e
18; Mismatches
                                                  e 1460.5; DB 2;
No. 2.8e-106;
ismatches 75;
                                                                                                                                                                                                                   predicted
                                                                                                                       1 <TM2>
1 <TM3>
1 <TM4>
1 <TM5>
1 <TM6>
1 <TM7>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 #text_change
                                                                                                                                                                                                                                                                                                                                                                                                                          CDNAS
                                                     Indels
                                                                                      Length
                                                                                                                                                                                                                                                                                                                                                                                                                          and
                                                                                      449;
                                                                                                                                                                                                                                                                           apoptotic
                                                     47;
                                                                                                                                                                                                                                                                                                              PID:g1944356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   20-Jun-2000
                                                                                                                                                                                                                                                                                                                                                                                                                           their
                                                   Gaps
                 57
                                                                                                                                                                                                                                                                                                                                                                                                                           differential
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                             cascades
                                                     7;
```

Ф

```
Presentlin 2 - human
N: Alternate names: Alzheimer's disease protein
C:Species: Homo sapiens (man)
C:Date: 26-Jul-1956 #sequence_revision 26-Jul-
C:Accession: A56993; IS8098
R:Levy-Lahad, E.; Wassco, W.; Poorkaj, P.; Roma
Science 269, 973-977, 1995
A:Title: Candidate gene for the chromosome 1 f
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A:Cross-references: GDB:633044;
A:Map position: 1q31-1q42
C:Superfamily: presentlip
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Title: Familial A; Reference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT
A56993
               Ş
                                             В
                                                                   Ş
                                                                                                 B 5
                                                                                                                                                          B
                                                                                                                                                                                        δõ
                                                                                                                                                                                                                            망
                                                                                                                                                                                                                                                  5
                                                                                                                                                                                                                                                                                B
                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Molecule type: mRNA
A; Residues: 1-122, 'P', 124-448 <RE2>
A; Cross references: GB:L44577; NID:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A; Reference number: A56993; A; Accession: A56993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Gene: GDB: PSEN2; AD4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Molecule type: mRNA
A;Residues: 1-448 <RE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Status: preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ;Cross-references: GB:L43964; NID:g951202; PIDN:AAB59557.1; PID:g951203; Royaev, E.I. Shoreth9tt0, R.; Royaeva, E.A.; Levesque, G.; Ikeda, M.; L.; Cohen Eri Lannfelt, L.; Fraser, P.E.; Rommens, J.M.; St George-Hyslop, ature 376, 775-778, 1995
                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Status: preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Reference
                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                     188
                                                                                                                                                                                                   182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     307
                 362
                                                                                                         248
                                                                                                                                       242
                                                                                                                                                                                                                               128
                                                                                                                                                                                                                                                             122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
                                                                                                                                                                                                                                                                                         75
                                                                                                                                                                                                                                                                                                                       62
                                                                                                                                                                                                                                                                                                                                                    24
                                                                                                                                                                                                                                                                                                                                                                                  w
                                                                                                                                                                                                                            VVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTED 121
-----LEEELTLKYGAKHVIMLFVPVTLCMIVVVATIKSVRFYTEKNGQLIYTTFTED 127
                                                                                                                                                                                                                                                                                                                                                                           ELPAPLSYFQNAQMSEDWALSNTYRSQNDNRERQEHNDRR-SLGHPEPLSNGRPQGNSRQ 61
QELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCLT:
                                                                          DPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAAV
                                                                                                                         PEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAEG
                                                                                                                                                                                 LGEVFKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKYL
                                                                                                                                                                                                                                                                                                                                                  ESPTPRSCQEGRQGPEDGENTAQWRSQENEEDGEEDPDRYVCSGVP-----GRPPG----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GLCLTLLLAVFKKALPALPISITFGLIFYFSTDNIVRPFMDTLASHQMYI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GLCLTLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PEWSAWVILGAISVYDLVAVLCPKGPLRMLVETAQERNEPIFPALIYSSAMVWTVGMAKL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MAD-SATADGRMNQQVQHIDRNTPEGANSTV--
                                             DPSSQGAL--QLPYDPE-MEEDSYDSFGE---PSYPEVFEPPLTGYPG-------
                                                                                                                                                                  LGEVLKTYNVAMDYPTLLLTVWNFGAVGMVCIHWKGPLVLQQAYLIMISALMALVFIKYL
                                                                                                                                                                                                                                                                                                                                                                                                                 304;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1-448 <RES>
                                                                                                                                                                                                                                                                                                                                                                                                                              Similarit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                158098
                                                                                                                                                                                                                                                                                                                                                                                                               Conse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Alzheimer's disease in kindreds with missense mutations F: 158098, NULL-95379971; PMID:7651536
                                                                                                                                                                                                                                                                                                                                                                                                               vative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STM2; PS2;
                                                                                                                                                                                                                                                                                                                                                                                                                              60.88;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NID:g950347;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S2; E5-1
OMIM:600759
                                                                                                                                                                                                                                                                                                                                                                                                              Score 1453; DB 2;
Pred. No. 1.1e-105;
9; Mismatches 81;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       26-Jul-1996 #text_change
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Romano, D.M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 familial Alzheimer's PMID:7638622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PIDN: AAC42012.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 448;
                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Oshima,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PID:g950348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ٦
;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       17-Nov-2000
                                                                                                                                                                                                                                                                                                                                                                                                              42;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              disease locus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ė
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pettingell,
                                                                                                                                                                                                                                                           181
                                                                           361
                                                                                                                                                                                                                               187
                                                                                                                                     301
                                                                                                                                                                247
                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                  74
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   338
                                                                                                       307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Liang,
p, P.H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          വ
                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Υ.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Σ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Chi
```

protein F35H12.3 [imported] - Caenorhabditis C;Species: Caenorhabditis elegans C;Date: 10-May-2001 #sequence_revision 10-May C;Accession: E89453 R;anonymous, The C. elegans Sequencing Consor Science 282, 2012-2018, 1998

RESULT E89453

A;Title: Genome sequence of the nematode C. elegans: a platform for investigating bio A;Reference number: A75000; MUID:99069613; PMID:991916
A;Note: see websites genome wustl.edu/gsc/C_elegans/ and www.sanger.ac.uk/Projects/C_A;Note: published errata appeared in Science 283, 35, 1999; Science 283, 2103, 1999;

Consortium 10-May-2001

elegans

#text_change

09-Nov-2001

```
R;Li, J.; Ma, J.; Potter, H.
Proc. Natl. Acad. Sci. U.S.A. 92, 12180-12184, 1995
A;Title: Identification and expression analysis of a potential
A;Reference number: I39174; MUID:96109229; PMID:8618867
A;Accession: I39174
A;Status: preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Molecule type: mRNA
A; Residues: 1-442 <RES>
A; Cross-references: EMBL: U34349;
C; Superfamily: presenilin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         seven trans-membrane domain protein AD3LP/AD5 C;Species: Homo sapiens (man) C;Date: 31-May-1996 #sequence_revision 31-May-C;Accession: I39174
 밁
                       Q
                                                     B
                                                                             Qy
                                                                                                          B
                                                                                                                                 Qy
                                                                                                                                                                 DЬ
                                                                                                                                                                                          Qy
                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                             B
                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                            Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δÔ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 139174
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                         188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  422
                            422
                                                      349
                                                                                                            308
                                                                                                                                                                                                                                                  182
                                                                                                                                                                                                                                                                               128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             350
 404
                                                                                362
                                                                                                                                      302
                                                                                                                                                                   248
                                                                                                                                                                                              242
                                                                                                                                                                                                                                                                                                         122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              10
                                                                                                                                                                                                                                                                                                                                                              62
                                                                                                                                                                                                                                                                                                                                   75
                                                                                                                                                                                                                                                                                                                                                                                        24
LLLLAIFKKALPALPISITFGLVFYFATD
||||::||||||||||:||
LLLLAVFKKALPALPISITFGLIFYFSTD
                                                                                                                                                                                                                                     LGEVFKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKYL
                                                                                                                                                                                                                                                                                                                                                 VVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMYVVVATIKSVSFYTRKDGQLIYTPFTED 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRR-SLGHPEPLSNGRPQGNSRQ
                                                                                                                                      DPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAAV
                                                                                                                                                                                                                      TETVGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLEFFSEIY 181
                                                        EELEE----
                                                                     DPSSQGAL -- QLPYDPEM -- EDSYDSFGE -- - PSYPEVFEPPLTGYPG --
                                                                                                                                                                 PEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAEG
                                                                                                                                                                                                                                                                               TPSVGQRLLNSVLNTLIMISVIVVMTIFLVVLYKYRCYKFIHGWLIMSSLMLLFLFTYIY
                                                                                                                                                                                                                                                                                                                                                                                         ESPTPRSCQEGRQGPEDGENTAQWRSQENEEDGEEDPDRYVCSGVP-----GRPPG----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EEL-----EEEEERGVKLGLGDFIFYSVLVGKAAATGSGDWNTTLACFVAILIGLCLT
                                                                                                                                                                                                                                                                                                                                    -----LEEELTLKYGAKHVIMLFYPYTLCMIVYVATIKSYRFYTEKNGQLIYTPFTED
                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                      EEESQGGVKLGLGDFIFYSVLVGKAAATGSGDWNTTLACFVAILIGLCLT
                                                                                                                                                                                                                                                                                                                                                                                                                                                         57.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                             39;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NID: g1079575;
                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 1381.5; DB 2;
Pred. No. 4e-100;
Pred. No. 4e-100;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      31-мау-1996
                            450
 432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PIDN: AAC50290.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      #text_change
                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   familial
                                                                                                                                                                                                                                                                                                                                                                                                                                               41;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PID:g1079576
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         29-Sep-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                            187
                                                        403
                                                                                  421
                                                                                                            348
                                                                                                                                                                 307
                                                                                                                                                                                            301
                                                                                                                                                                                                                        247
                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                         74
                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Alzheimer's
                                                                                                                                                                                                                                                                                                                                                                                                                                               8
```

Ω

```
A; Accession: E89453
A; Status: preliminary
A; Molecule type: DNA
A; Residues: 1-836 <STO>
A; Cross-references: GB:chr_X; PII
A; Note: similar to M. musculus S:
C; Genetics:
A; Gene: F35H12.3
A; Map position: X
                                                                                                                                                                                                                                                 C:Species: Caenorhabditis elegans
C:Date: 10-Apr-1996 #sequence_revision
C:Accession: S60253
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ם
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VQ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                멍
                        В
                                                                                                                                     A;Molecule type: mRNA
A;Residues: 1-461 <LEV>
A;Cross-references: EMBL:U35660
                                                                                                                                                                                   A,Title: Facilitation of lin-12-mediated signalling by A;Reference number: S60253; MUID:96032531; PMID:7566091 A;Accession: S60253
                                                                                                                                                                                                                                                                                                                                                                                                                      γQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δã
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
- Q-
                                          -Q
                                                                                                                         C; Superfamily:
                                                                                                                                                                        A; Status: preliminary; nucleic
                                                                                                                                                                                                                          R; Levitan, D.; Greenwald, Nature 377, 351-354, 1995
                                                                                                                                                                                                                                                                                     sel-12 protein -
                                                                                                                                                                                                                                                                                                                                                  망
                                                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                          Query Match
Best Local S
Matches 205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
   123
                                                                                                                                                                                                                                                                                                                                                  435
                                                                                                                                                                                                                                                                                                                                                                          458
                                                                                                                                                                                                                                                                                                                                                                                                   377
                                                                                                                                                                                                                                                                                                                                                                                                                          398
                                                                                                                                                                                                                                                                                                                                                                                                                                                 332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       123
                                                                                                                                                                                                                                                                                                              12
                          32
                                                  64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 32
                                                                                     Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     64 EQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQ-LIYTPFTEDT 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local Similarity
es 218; Conserv
                                      ETVGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLEFFFSFIYL
                         QEDENVVEEAELKYGASHVIHLFVPVSLCMALVVFTMNTITFYSQNNGRHLLSHPFVRET
                                                                                                                                                                                                                                                                                                                                                  TQVS
                                                                                                                                                                                                                                                                                                                                                                         DQLA 461
                                                                                                                                                                                                                                                                                                                                                                                         SYF--DWNTTIACYVAILIGLCETLVLLAVEKRALPALPISIESGLIEVECTRWIITPEV
                                                                                                                                                                                                                                                                                                                                                                                                              ATASGDWNTTIACFVAILIGLCLTLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFM
                                                                                                                                                                                                                                                                                                                                                                                                                                                             EEWEAQRDSHLGPHRSTPESRAAVQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GEVFKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKYLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QEDENVVEEAELKYGASHVIHLFVPVSLCMALVVFTMNTITFYSQNNGRHLLYTPFVRET
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ENTTDPREPTSSDSNTSTAFPGEASCSSETPKRPKVKRIPQKVQIESNTTASTTQNSGVR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EGDPEAQRRVSKNS-----KYNAESTER-----ESQDTVAENDDGGFS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EWTVWFVLFVISVWDLVAVLTPKGPLRYLVETAQERNEPIFPALIYSSGVIYPYVLVTAV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVW---LVNMA
                                                                                                                                                                                                                                                                                                                                                  438
                                                                                                                           presenilin
                                                                                                                                                                                                                                                                                     Caenorhabditis elegans
                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                -RELAAERPTVQDAN---FHRHEEEERGVKLGLGDFIFYSVLLGKAS
                                                                                    40.5%;
                                                                                                                                                                                                                                     H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           44.38;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              71;
                                                                          65;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 1059.5;
Pred. No. 1.1e
71; Mismatches
                                                                                    Score 968.5; DB Pred. No. 7e-68;
                                                                                                                                                                         sequence
                                                                          Mismatches
                                                                                                                                                                                                                                                            19-Apr-1996 #text_change
                                                                                                                                                                          not
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               . Le-/4;
les 92;
                                                                                                                                                                          shown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BB
                                                                         97;
                                                                                                2,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2;
                                                                          Indels
                                                                                                                                                                                                             sel-12,
                                                                                                Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length
                                                                                                  461;
                                                                                                                                                                                                              þ
                                                                         43;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               43;
                                                                                                                                                                                                                                                             13-Sep-1998
                                                                                                                                                                                                             Caenorhabditis elegans
                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                         91
                                                122
                                                                                                                                                                                                                                                                                                                                                                                                                       457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     182
                                                                                                                                                                                                                                                                                                                                                                                                                                                376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      337
                                                                          7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               7;
```

```
밁
                                                                                                                                           Qy
                                                                                                                                                                                                            δÃ
                δÃ
                                                B
                                                                           Qy
                                                                                                                                                                                 맑
                                                                                                                                                                                                                                             B
                                                                                                                                                                                                                                                                          Qy
                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     submitted to the EMBL Data Library, April 1998 A; Description: Genomic sequence for Arabidopsis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  R;Shinn, P.; Buehler, E.; Dewar, K.; Feng, eologis, A.; Ecker, J.R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                presenilin homolog F22013.19 - Arabidopsis thaliana
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Date: 12-Feb-1999 #sequence_revision 12-Feb-1999 #text_change 22-Oct-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Map position:
A; Introns: 108/1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Molecule type: DNA
A; Residues: 1-453 <SHI>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Reference number: A; Accession: T00724
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Description: Genomic sequence A; Reference number: Z14200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    C; Accession: T00724
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 д
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Gene: ATSP: F22013.19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Experimental source:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Status: translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Cross-references:
                                                                                                                                                                                                                                                                                                                                                                                                                                          Superfamily:
                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                            Matches
                  340
                                                                                                                                                                                 131
                                                                                                                                                                                                               198
                                                  249
                                                                                                                  190
                                                                                                                                                 257
                                                                                                                                                                                                                                                                               138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              183
                                                                                                                                                                                                                                               71
                                                                                                                                                                                                                                                                                                             13
                                                                                                                                                                                                                                                                                                                                            82 VIMLFVPVTLCMVVVVATIKSVSFYT----RKDGQLIYTPFTEDTETVGQRALHSILNAA 137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               92
                                                                                                               VALLIWNLGVVGMISIHWKG-PLRLQQAYLIMISALMALVFIKYLPEWTAWLILAVISVY 256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SYF--DWNTTIACYVAILIGLCETLVLLAVFKRALPALQFPFSPDSFFTF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GEVFKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKYLP
               -WEAQRDSHLGPHRSTPESRAAVQELSSSILA----
                                               SDSGSVELQAVRNHDVNQLGRENSHNMDYNAIAVRDIDNVDDGIGNGSRGGLERSPLVGS 308
                                                                                  MAEGDPEAQ - - - - -
                                                                                                                                               DLVAVLCPKGPLRMLVETAQERNETLFPALIY-----
                                                                                                                                                                                 CFILLENETILGTLSVFAGGIPIVLRQCYMVVMGIVVAAWFTK-LPEWTTWFILVALALY 189
                                                                                                                                                                                                                                             VFVVLIAAVTFILVLLFYYNFTNFLKHYMRFSAFFVLGTMGGAIFLSIIQHFSIPVDSIT 130
                                                                                                                                                                                                                                                                            IMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLFFFSFIYLGEVFKTYNVAVDYIT 197
                                                                                                                                                                                                                                                                                                             IIGVMAPVSICMFLVVLLTYSLSVTSDPQIRSAANLIYIENPSDSTTV--KLEGSLANAI 70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATASGDWNTTIACFVAILIGLCLTLLLLAIFKKALPALPISITFGLVFYF 447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EEWEAQRDSHLGPHRSTPESRAAVQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKAS 397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EGDPEAQRRVSKNS-----KYNAESTER------ESQDTVAENDDGGFS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVW---LVNMA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DSIVEKGLMSLGNALVMLCVVVLMTVLLIVFYKYKFYKLIHGWLIVSSFLLLFLFTTIYV
                                                                                                                                                                                                                                                                                                                                                                             al Similarity
146; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ENTTDPREPTSSDSNTSTAFPGEASCSSETPKRPKVKRIPQKVQIESNTTASTTQNSGVR 331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QEVLKSFDVSPSALLVLFGLGNYGVLGMMCIHWKGPLRLQQFYLITMSALMALVFIKYLP
                                                                                                                                                                                                                                                                                                                                                                                                                                          presenilin
                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL: AC003981; NID: g3063438; PID: g3063457; GSPDB: GN00059;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         cultivar Columbi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             22.9%;
                                                                                RRVSKNSKYNAESTE--RESQDTVAENDDGGFSEE----
                                                                                                                                                                                                                                                                                                                                                                             76;
                                                                                                                                                                                                                                                                                                                                                                          Score 546.5; DB 2
Pred. No. 5.9e-35;
6; Mismatches 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   J.;
-GEDPEE-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Kim,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     thaliana
                                                                                                                                                                                                                                                                                                                                                                                                          2
                                                                                                                                                 ----SSTMVWLVN----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   c.,
                                                                                                                                                                                                                                                                                                                                                                                                          Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ľ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Y.; Sun,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  424
                                                                                                                                                                                                                                                                                                                                                                             71;
                RG
                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 <del>.</del>.
                  378
                                                                                  339
                                                                                                                                                 297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conway,
                                                                                                                                                                                                                                                                                                                                                                             14;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATSP:F2
```

```
RESULT 14
A84702
                RESULT
                                                                                 밁
                                                                                                     ð
                                                                                                                                              В
                                                                                                                                                                       Ş
                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                       δ
                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                   δ
                                                                                                                                                                                                                                                                                                                                                                                                     망
                                                                                                                                                                                                                                                                                                                                                                                                                                       20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Map position: 2
C; Superfamily: presenilin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Title: Sequence and analysis of chromosome 2 of the plant Arabidopsis thaliana. A;Reference number: A84420; MUID:20083487; PMID:10617197 A;Accession: A84702
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      R:Lin, X.; Kaul, S.; Rounsley, S.D.; Shea, T.P.; Benito, M.I.; Town, C.D.; Fujii, C.Y. M.; Koo, H.; Moffat, K.S.; Cronin, L.A.; Shen, M.; VanAken, S.E.; Umayam, L.; Tallon, euss, D.; Nierman, W.C.; White, O.; Eisen, J.A.; Salzberg, S.L.; Fraser, C.M.; Venter, Nature 402, 761-768, 1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     probable presentlin [imported] - Arabidopsis thaliana
C;Speciles: Arabidopsis thaliana (mouse-ear cress)
C;Date: 02-Feb-2001 #sequence_revision 02-Feb-2001 #text_change 16-Feb-2001
C;Accession: A84702
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
presenilin-beta homolog -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Gene: At2g29900
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Cross-references: GB: AE002093; NID: g4567215; PIDN: AAD23630.1; GSPDB: GN00139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Molecule type: DNA
A; Residues: 1-397 <STO>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                394
                                                                                                                                                                                                                                                337
                                                                                                                                                                                                                                                                                                               281
                                                                                                                                                                                                                                                                                                                                               163
                                                                                                                                                                                                                                                                                                                                                                                                             103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         439
                                                                                 384
                                                                                                               454 QPFMDQ 459
                                                                                                                                                 327
                                                                                                                                                                                                              277
                                                                                                                                                                                                                                                                                222
                                                                                                                                                                                                                                                                                                                                                                                                                                              162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      309
                                 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           52 NGRPQGNSRQVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATI------KS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4
                                                                                                                                                                           GKASATASGDWNTTIACFVAILIGLCLTLLLLAIFKKALPALPISITFGLVFYFATDYLV
                                                                                                                                                                                                           TLFPALIYSSTMVWLVNMAEGDPEAQRRV---SKNSKYNAESTE-RESQDTVAENDDGGF
                                                                                                                                                                                                                                                                                                                                                           LKFYMGFSAFIVLGNLGGEILVLLIDRFRFPIDSITFLILLFNFSVVGVFAVFMSKFSIL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VSFYTRKDGQLIYTPFTE-DTETVGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKV 161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NQRP----RSILDSLGEE-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DI-PALVYEARPV----IRNDSRSVQRRVWREQRSSQNNANRNEVRVVESAEVEEEHVGS
                                                                                                                                                                                                                                                                                                                                             ITQGYLVWIGVLVA-YFFTLLPEWTTWVLLVALALYDIAAVLLPVGPLRLLVEMAISRDE
                                                                                                                                                                                                                                                                                                                                                                                                                                          IHAWLIISSLLLLFFFSFIYLGEVFKTYNVAVDYITVALLIWNLGVVGMISIHW-KGPLR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ASF----SSIATAAYSESDSDSSWDKFVGALLNSVVFVAAITVATFVLVLLFYLRCVKF
                                                                                 EVEVVQ
                                                                                                                                              GRA----AMYDLMTVYACYLAIIAGLGITLMLLSVYQKALPALPVSIMLGVVFYFLARLLL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IMLGVVFYFLTRLLMEPFV 443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ITEGLVEYEATDYLVQPEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PSASEHSTSVGT-RGNMEDRESVMDEEMSPLVELMGWGDNREEARGLEESDNVVDISNRG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           al Similarity
144; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         22.5%; Score 539; DB 2; 1 larity 33.8%; Pred. No. 1.9e-34; Conservative 79; Mismatches 145;
 Caenorhabditis elegans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -LIAILTPVSICMFTVVLLVCILNSDPSSSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 397;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Town, C.D.; Fujii, C.Y.;
E.; Umayam, L.; Tallon, L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           58;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                             336
                                                                                                                                                                                                                                                                                                                                                                                                            162
                                                                                                                                                                              453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           102
                                                                                                                                              383
                                                                                                                                                                                                              326
                                                                                                                                                                                                                                                                             276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     367
                                                                                                                                                                                                                                                                                                                                           221
                                                                                                                                                                                                                                                                                                                                                                                                                                            220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           15;
```

Search completed: March Job time : 40 secs

14,

2003,

20:09:41

```
R.Li, X.; Greenwald, I.
Proc. Natl. Acad. Sci. U.S.A. 94, 12204-12209, 1997
A;Title: HOP-1, a Caenorhabditis elegans presenilin, appears
A;Referrence number: Z22112; MUID:98004548; PMID:9342387
A;Accession: T42237
A;Status: preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         R:Connell, M.; Maggi, L.
R:Connell, M.; Maggi, L.
Submitted to the EMBL Data Library, April 1997
Submitted to the EMBL Data Library, April 1997
A:Description: The sequence of C. elegans cosmid C18E3
                                    Ş
                                                                           Ъ
                                                                                                              20
                                                                                                                                                      В
                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                    망
                                                                                                                                                                                                                                                                       δõ
                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                    Ωy
                                                                                                                                                                                                                                                                                                                                                                                             망
                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A;Cross-references: EMBL:AF000265; NID:g1947147; PID:g1947155; A;Experimental source: strain Bristol N2; clone C18E3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Reference number: Z18304
A; Accession: T15184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C;Species: Caenorhabditis elegans
C;Date: 20-Sep-1999 #sequence_revision 20-Sep-1999 #text_change 21-Jul-2000
C;Accession: T15184; T42237
  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Introns: 44/2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Gene: HOP-1; CESP:C18E3.8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A;Cross-references: EMBL:AF021905; NID:g2618986; PIDN:AAB84394.1; PID:g2618987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Molecule type: DNA
A; Residues: 1-358 <LIX>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Residues: 1-358 <CON>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Status: preliminary; translated from GB/EMBL/DDB.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Species: Caenorhabditis elegans
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
327
                                      436
                                                                                                                  376
                                                                                                                                                         223
                                                                                                                                                                                               316
                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                           256
                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                        196
                                                                                                                                                                                                                                                                                                                                                                                                                                    136
                                                                                                                                                                                                                                                                                                                                                                                               64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity 30.8 les 118; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                        YGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPF-TEDTETVGQRALHSILN
                                    PISITEGLVEYFATDYLVQPFMD
                                                                                                 DSPDTTRSNSTPLTEFNNSSSSRLLES--DSLLRP-PVIPRQIREVREVEGTI-----
                                                                                                                                                                                             NAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAAVQELSSSILAGEDPE
                                                                                                                                                                                                                                      WDIVAVLTPCGPLKMLVETANRRGDDKFPAILYNSS-----
                                                                                                                                                                                                                                                                                                                  PTFFFLILQFGGLGITCLHWKSHRRLHQFYLIMLAGLTAIFILNILPDWTVWMALTAISF
                                                                                                                                                                                                                                                                                                                                        ITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKYLPEWTAWLILAVISV
                                                                                                                                                                                                                                                                                                                                                                                             ---LIGFLILTTSLGVFCYQMKFYKAIKVYVLANSIGILLVYSVFHFQRIAEAQSIPVSV
                                                                                                                                                                                                                                                                                                                                                                                                                        AAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLEFFSFIYLGEVFKTYNVAVDY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           YSGKTITGVLYPVAICMLFVAINVKLSQPEQQEQSKVVYGLFHSYDTADSGTITLY----
PEPLAIAAIFYFSSHIALTPFTD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  44/2; 85/3; 215/1; 263/1; 291/3
                                                                             ·RLGMGDFVFYSLMLGNTVQTC·-PLPTVVACFVSNLVGLTITLPIVTLSQTALPAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  21.4%; Score 511; DB 2; 30.8%; Pred. No. 2.6e-32; vative 78; Mismatches 145
                                      458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ç
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PIDN:AAB52948.1;
                                                                                                                                                                                                                                      SYVNEV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      42;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 þe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 functionally
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                               375
                                                                                                                                                                                                                                                                             315
                                                                                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           63
                                                                                                                                                                                                                                                                                                                                                        255
                                                                                                                                                         272
                                                                                                                                                                                                                                      222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        7;
```

redun

GSPDB

THIS PAGE BLANK (USPTO)

```
Title:
Perfect score:
Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Minimum
Maximum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OM protein -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
      Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
   2387
2237
2237
2237
2237
2237
2237
2461
1460.5
1461.5
1441.5
1441.5
1546.5
546.5
546.5
546.5
117.5
546.5
117.5
546.5
117.5
546.5
118.5
546.5
118.5
546.5
118.5
546.5
118.5
546.5
118.5
546.5
118.5
546.5
118.5
546.5
118.5
546.5
118.5
546.5
118.5
546.5
118.5
546.5
118.5
546.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118.5
118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-689-159A-2
2391
1 MTELPAPLSYFONAOI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           length: 0
length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BLOSUM62
Gapop 10.0 ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 March 14, 2003, 19:19:10; Search time 16 Seconds (without alignments) 1210.590 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  112892 seqs, 41476328 residues
   SwissProt_40:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MTELPAPLSYFQNAQMSEDN.....ATDYLVQPFMDQLAFHQFYI 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GenCore version 5.1.4_p5_4578 Copyright (c) 1993 - 2003 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length
   Gapext 0.5
PSN2_XENLA
PSN2_MICMU
PSN2_MOUMD
PSN2_MOUSE
PSN2_GAEEL
PSNL_CAEEL
PSNL_CAEEL
SPE4_CAEEL

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PSN1_MICMU
PSN1_MOUSE
PSN1_RAT
PSN1_BOVIN
PSN1_XENLA
PSN2_HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SUMMARIES
012949
012949
012977
012977
012977
012977
012977
012194
001144
002194
002194
002196
002160
001608
0021608
002729
008722
008722
02277
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0238427
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   P49768
P79802
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           P49769
                     7 mycoplasma
1 carassius a
1 carassius a
7 mus musculu
2 squalus aca
2 drosophila
8 homo sapien
3 acheta dome
9 mycoplasma
9 rattus norv
4 saccharomyc
acanthamoeb
                                                                                                                                                                                                                                                                                                                                                                     bos xenopus lae
homo sapien
renopus lae
microcebus
bos taurus
mus musculu
rattus norv
drosophila
arabidopsis
caenorhabdi
scaenorhabdi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     bos taurus
xenopus lae
homo sapien
xenopus lae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          mus musculu
rattus norv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   homo sapier
   musculu
```

RA R	REAL STREET STRE	
SEQUENC SEQUENC ROWEN LA Madan A "Comple Submitt [4] SEQUENC TSujimu SUBCELL MEDLINE KOVACS METTIAM FELSENS METTIAM FELSENS "ALDeib brain a cells."	RESULT 1 PSN1_HUMAN PSN1_HUMAN ID PSN1_HU AC P4976% DT 01-0CT- DT 15-JUN- DT 15-JUN- DT PTSSN1 DT NSEN1 DT PTSSN1 DT PTSSN1 DT SEN1 DT PTSSN1 DT PTSSN1 C EUARTY OC EUARTY OC EUARTY OC Mammali OX NCBI_TA RN [1] RA FINCLINE RA SABATA RA RISUE- RN [2] RN [1] RT ISUE- RN EDULNE RN SABATA RA RA FINSUS- RA SABATA RA SABATA RA SABATA RA SABATA RA SABATA RA FINSUS- RA SABATA RA SABATA RA RA FINSUS- RA SABATA RA SABATA RA SABATA RA FINSUS- RA SABATA RA SABATA RA FINSUS- RA SABATA RA FINSUS- RA SABATA RA FINSUS- RA SABATA RA FINSUS- RA SABATA RA SABATA RA FINSUS- RA FINSUS- RA SABATA RA FINSUS- RA SABATA RA FINSUS- RA FIN	4 4 4 4 4 4 3 3 3 3 4 4 4 4 4 4 9 8 9 7 5 7 6 4 4 4 4 4 6 7 6 7 6 7 6 7 6 7 6 7 6
LLULA NE=96	HUMA 7-19 7-19 7-19 N-20 OR N-11 N-11 N-11 N-11 N-11 N-11 N-11 N-1	99 66 99 99 99 99 99 99 99 99 99 99 99 9
M N.A. ickho A. ickho	TO DO AT OR STORES	
of R. Grand	DARD: 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119; 7119;	764 776 226 226 458 458 522 628 672 871 944 294
Abba affer gene gene gene ne EMBI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI TISSUI	D; Q15720; Created) Last sequence Lording Crani imates; Catari D VARIANTS AD D VARIANTS AD D VARIANTS AD C., Liang C., Montesi M numakov I., Po Last R.E., Ross e-Hyslop P.H. ring missense 5). OFFORMS I-463 n Takagi H., Takagi H., aaracterization 96).	1 TSHR.] 1 CME3.] 1 NU6M 1 NU4R 1 NV4R 1 C822 1 YEH5 1 YEH5 1 YA7D 1 YK83 1 OPPC AL
Dbasi N., Do T., James for preser #BL/GenBank, #BL/GenBank #BL/GenBank #BL/GenBank #BL/GenBank #BS, Kin #BS, Kin #Ballmark O. Tanzi R.E., Lins 1 and dare	up on up on this rhi	TSHR_MOUSE CME3_BACSU NU6M_DICDI TSHR_BOVIN NU4M_PETMA C822_SOYBN YEH5_YEAST HYEB_ECOLI YA7D_SCHPO MML3_MYCTU YK83_YEAST OPPC_LACLA ALIGNMENTS
DDBJ /DDBJ /DDBJ /DDBJ /DDBJ /DDBJ /DDBJ /DDBJ /DDBJ /DDBJ /DDBJ /DDBJ /DDBJ /DDBJ /DDBJ	7 AA. 7 AA. 9 pdate) pdate) vert 1; HC 1;	all S
tc s ba ba ba in in	I-4 In id	
iffe A , Hood es. es. R.D., R.C. R.S. xpress mammal	utele Homo Leves Leves Hair Hair E., Y-ons	P47750 P39695 Q37314 Q373197 Q35542 Q81972 P39980 P23482 Q09765 P36028 Q07743
L.;	postomi; 463). 463). L., L., L., L., 1.463 a	
	mi; G., amilial amilial	mus musculu bacillus su dictyosteli bos taurus petromyzon glycine max saccharomyc escherichia schizosacch mycobacteri saccharomyc lactococcus

```
FUNCTION, AND NOTICE TO MEDILINE-20283925; PubMed-10811883; MEDILINE-20283925; PubMed-10811883; Kulic L., Walter J., Multhaup G., Teplow D.B., Baumeister R. Kulic L., Walter J., Steiner H., Haass C.; Romig H., Capell A., Steiner H., Haass C.; "Separation of presenilin function in amyloid beta-peptide and endoproteolysis of Notch."; Natl. Acad. Sci. U.S.A. 97:5913-5918(2000).
                                                                                                                                                                              Baki L., Marandauu r., Colawa M., Friedrich V.L., r
Cul W., Shioi J., Koo E., Ozawa M., Friedrich V.L., r
"Presenilin-1 binds cytoplasmic epithelial cadherin,
cadherin/pl20 association, and regulates stability ar
the cadherin/catenin adhesion complex.";
Proc. Natl. Acad. Sci. U.S.A. 98:2381-2386(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ray W.J., Yao M., Mumm J., Schroeter E.H., Selkoe D.J., Kopan R., Goate A.M.; "Cell surface presentlin-1 participates in proteolysis of Notch.";
                                                                                      INTERACTION WITH DELTA-2 CATENIN.

MEDLINE=99155075; Pubmed=10037471;

MEDLINE=99155075; Pubmed=10037471;

Levesque G., Yu G., Nishimura M., Zhang D.M., Levesque L., Yu Lucyesque G., Yu G., Nishimura M., Zhang D.M., Levesque L., Yu Xu D., Liang Y., Rogaeva E., Ikeda M., Duthie M., Murgolo N., VanderVere P., Bayne M.L., Strader C.D., Rommens J.M., Fraser St George-Hyslop P.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Aspartate mutations in presentilin and gamma-secretase inhibitors impair notchi proteolysis and nuclear translocation with relative preservation of notchi signaling.";

J. Neurochem. 75:583-593(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Zhang J., Diehl T., Levesque G., Fraser P., Haass C., Koo E.H., Seubert P., St George-Hyslop P., Teplow D.B., Selkoe D.J.; "Presenilin proteins undergo heterogeneous endoproteolysis between Thr291 and Alaz99 and occur as stable N- and C-terminal fragments normal and Alzheimer brain tissue."; Neurobiol. Dis. 3:325-337(1997).
                                           neural-specific plakophilin-related J. Neurochem. 72:999-1008(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Two transmembrane aspartates in presentiin-1 required endoproteolysis and gamma-secretase activity."; nature 398:513-517(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE=99221485; Wolfe M.S., Xia W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Loetscher H., Jacobsen H., Haass C.,
"Amyloidogenic function of the Alzheimer's dise
presentin in the absence of endoproteolysis.
Biochemistry 38:14600-14605(1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FUNCTION, AND MUTAGENESIS OF MET-292. MEDLINE-20014554; PubMed-10545183; Steiner H., Romig H., Pesold B., Phil
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Podlisny M.B.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            [6]
PROCESSING.
PROCESSING.
PROCESSING.
PubMed-9173929;
                 REVIEW
                                                                                                                                                                                                                                                                                          PubMed=11226248;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Berezovska O., Jack C., McLean P., Aster Wolfe M.S., Kimberly W.T., Weinmaster G.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Selkoe D.J.;
                                                                        "Presentlins interact with armadillo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE=20359495;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Biol.
               8
               VARIANTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AND MUTAGENESIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MUTAGENESIS OF ASP-257 AND ASP-38
195; PubMed=10899933;
Jack C., McLean P., Aster J.C.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Citron M., Amarante P.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   274:36801-36807(1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Σ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PubMed=10206644;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ostaszewski B.L.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ASP-257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Philipp
                                                                                                                                                                                                                                                        Friedrich V.L., Robakis
                                                           protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AND
                                                                         proteins
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Diehl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sherrington R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               u.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ASP-385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ASP-385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Selkoe D.J., H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       disease-associated
ysis.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Saftig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        T.S.,
                                                           and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Baader
                                                                           including
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                gamma-secretase-like
                                                           beta-catenin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              P.
                                                                                                                                                                                                                               and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Kimberly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .
3
                                                                                                                                                                                                                                             inhibits
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Wolfe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Xia
                                                                                                                                                                                                                               function
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Citron
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            presenilin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Σ.
                                                                                                                                                                                                                                                                                                                                                                  generation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          W.T.,
                                                                                                                                                                                                                                                           N.K.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              X
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ₩.,
B.T.;
                                                                                                      Wang L.,
P.E.,
                                                                                                                                                                                                                                                                           Wen
                                                                                                                                                                                                                                                                           .
.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        both
```

```
P VARIANTS AD V-139; V-146; Y-105, ...

P VARIANTS AD V-139; V-146; Y-105, ...

X MEDLINE-96024664; PubMed-7550356;

XA Clark R.F., Hutton M., Fuldner R.A., Froelich S., Karran E.,

Clark R.F., Hutton M., Fuldner R.A., Froelich S., Korenblat K.

RA Martinez A., Wragg M., Busfield F., Behrens M.I., Myers A., Nort

RA Morris J., Wehta N., Pearson C., Lincoln S., Baker M., Duff K.,

RA Arcos M., Wadrigal L., Collinge J., Humphreys C., Asworth T:,

RA Arcos M., Madrigal L., Collinge J., Humphreys C., Asworth T:,

RA Sarner S., Fox N.C., Harvey R., Kennedy A., Roques P.K., Cline

RA Phillips C.A., Venter J.C., Forsel L., Axelman K., Lilius L.,

RA Johnston J., Cowburn R., Viltanen M., Winblad B., Kosik K.S.,

RA Haltia M., Poyhonen M., Dickson D., Mann D., Neary D., Snowden

RA Haltia M., Poyhonen M., Dickson D., Mann D., Neary D., Snowden

RA Haltia M., Poyhonen M., Dickson D., Roberts G.W., Adams M.D.,
a gene
gene.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Rogaev E.I., Sherrington R., Rogaeva E.A., Levesque G., Ikeda M., Liang Y., Chi H., Lin C., Holman K., Tsuda T., Mar L., Sorbi S., Nacmias B., Piacentini S., Amaducci L., Chumakov I., Cohen D., Lannfelt L., Fraser P.E., Rommens J.M., St George-Hyslop P.H.; "Familial Alzheimer's disease in kindreds with missense mutations
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Agid Y., Frebourg 1., "Mutations of the presentlin I gene Alzheimer's disease.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VARIANTS AD L-82; H-115; T-139; R-163; T-231; L-264; V-MEDLINE-96177674; Pubmed-8634712;
Campion D., Flaman J.-M., Brice A., Hannequin D., Duboi Martin C., Moreau V., Charbonnier F., Didierjean O., Ta Penet C., Puel M., Pasquier F., le Doze F., Bellis G., Heilig R., Martinez M., Mallet J., Bellis M., Clerget-Carid V Frebrurg M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Cruts M., Backhovens H., Wang S. Y., van de Jonghe C., Wehnert A., de Voecht J., Bruyland M., Datson N., Weissenbach J., Hendriks L., Van Broeckhoven C. "Molecular genetic analysis of familial disease linked to chromosome 14924.3.";
                                                                                                                                                                                                        Haltia M., Poyhonen M., Dickson D.,
Lantos P., Lannfelt L., Rossor M.N.
Hardy J., Goate A.M.;
"The structure of the presenilin 1
six novel mutations in early onset
Nat. Genet. 11:219-222(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Cruts M., va
"Presenilin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Cruts M., Hendriks L., Van Broeckhoven C.; "The presenilin genes: a new gene family involved pathology.";
MEDLINE-97369208;
Crook R., Ellis R
                                                                                                                         MEDLINE=96310408; Pul
Kamino K., Sato S., 9
Tanabe H., Nishimura
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VARIANTS AD VAL-260; VAL-285 AND VAL-392. MEDLINE=95379971; PubMed=7651536;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REVIEW ON VARIANTS.
MEDLINE=98180715; PubMed=9521418.
                             VARIANT AD
                                                            Neurosci.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Nature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE=96177673; PubMed=8634711;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VARIANTS AD THR-143 AND ALA-384
                                                                                             different
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             376:775-778(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            on
                                                                                                                                                                            ΑD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    van Broeckhoven C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            chromosome
                                                              Lett.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Genet.
                                  ASP-135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     mutations in Alzheimer's 11:183-190(1998).
                                                                              disease
                                                                                                                                                                            PHE-96;
R.,
                                                              208:195-198(1996).
                                                                                           mutations
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4:2373-2377(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4:2363-2372(1995).
                                                                                                                          6; ARG-163 AND THR-213.
PubMed=8733303;
L. Sakaki Y. Yoshiiwa A., Nishi
ura T., Li K., St George-Hyslop
              PubMed=9225696;
                                                                              famili
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 related to the Alzheimer's
                                                                              es
                                                                                 es.";
                                                                                          presenilin
 Thal
                                                                                                                                                                                                                        (S182) gene
AD families.
L.J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ίn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       van
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     disease.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             T-231; L-264; V-392 AND Y-410.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     families with early-onset
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         den
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          early-onset Alzheimer's
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        de Winter G., T
Perez-Tur
                                                                                           gene
                                                                                                                                           Nishiwaki Y.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Dunnen J.T., Martin
                                                                                                                                                                                                                                                                                                                                    C., Asworth T:,
oques P.K., Cline
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Clerget-Darpoux
                                                                                                                                                                                                                           and
                                                                                             in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             disease type
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Dubois
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              in Alzheimer disease
                                                                                               early-onset
                                                                                                                                                                                                                                       identification
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Theuns
                                                                                                                                                                                                                                                                                                                                                                                                                   Korenblat K.,
                                                                                                                                                                                                                                                                                         ₹ ≅ . Ε . ,
                                                                                                                              Miki
                                                                                                                                                                                                                                                                                      Snowden
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Calenda
 Baker
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   B
                                                                                                                                            Takeda
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        P.,
                                                                                                                                                                                                                                                                                                                                                             F.
                                                                                                                                                                                                                                                                                                                                                                                                  Norton
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   s
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Α.
                                                                                                                                            Η.,
                                                                                                                                                                                                                                          of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            in
```

```
PSN1_M
B 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   유양
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δÔ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           õ
       "Molecular cloning, sequencing, and brain expression of the
"IT presentlin 1 gene in Microcebus murinus";
"It Blochem, Biophys. Res. Commun. 228:430-439(1996).
"IT presently have a role in intracellular Signaling and gene expression or in Linking Chronafin To the Nuclear membrane.
"It follows the proplement of a n-Terminal (NTF) and a c-Terminal (TF) endoproteditioner of a n-Terminal (NTF) and a C-TERMINAL (CTF) ENDOPROTEDITICAL FRAGMENT (BY SIMILARITY).
"IT SUBCELULIAR LOCATION: INTEGRAL MEMBRANE PROTEIN. GOLGI AND ENDOPLASMIC RETICULUM (BY SIMILARITY).
"IT ALTERNATIVE PRODUCTS: 2 ISOFORMS; I-467 (SHOWN HERE) AND I-463; ARE PRODUCED BY ALTERNATIVE SPLICING.
"IT SISUE SPECIFICITY: FOUND PREDOMINANTLY IN NEURONS OF THE DIFFERENT CORTICAL LAYERS AND HIPPOCAMPUS BUT ALSO IN SUBCORTICAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Ma
Best Loc
Matches
                                                                                                                                                                                                                                                                                                                  P79802;
15-JUL-1999 (Rel. 38, L
15-JUL-1999 (Rel. 38, L
16-OCT-2001 (Rel. 40, L
Presenilin 1 (PS-1)
PSENI OR PSNL1 OR PS1
                                                                                                                                                                                                                                                                              Microcebus murinus (Lesser mouse lemur).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleo
Mammalia; Eutheria; Primates; Strepsirhini; Cheirogaleidae;
                                                                                                                                                                                                                                                                                                                                                                                                             MICMU
                                                                                                                                                                                                Calenda
                                                                                                                                                                                                          MEDLINE-97079199;
                                                                                                                                                                                                                       SEQUENCE FROM N.A. TISSUE-Brain;
                                                                                                                                                                                                                                                                       Microcebus
                                                                                                                                                                                                                                                                                                                                                                                               PSN1_MICMU
                                                                                                                                                                                                                                                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   \vdash
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TLLLAIFKKALPALPISITEGLVEYFATDYLVQPEMDQLAFHQFYI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                                             A., Mestre-Frances
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                               STANDARD;
                                                                                                                                                                                                          PubMed-8920931;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99.8%;
                                                                                                                                                                                                                                                                                                                                              Last
Last
                                                                                                                                                                                                                                                                                                                                                                       Created)
                                                                                                                                                                                            z
                                                                                                                                                                                                                                                                                                                                              sequence up
annotation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 2387; I
Pred. No. 1.4e
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                               PRT;
                                                                                                                                                                                               Czech
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2387; DB 1;
No. 1.4e-150;
                                                                                                                                                                                                                                                                                                                                                         update)
                                                                                                                                                                                            С.,
                                                                                                                                                                                                                                                                                                                                                                                               467
                                                                                                                                                                                             Pradier
                                                                                                                                                                                                                                                                                                                                                                                              Ą
                                                                                                                                                                                             Ľ.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                              Euteleostomi;
                                                                                                                                                                                             Bons
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                           467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  467
          THE
SUBCORTICAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0;
```

```
밁
             δÃ
                                 B
                                              Ωy
                                                                  В
                                                                               δÃ
                                                                                                  밁
                                                                                                                δÃ
                                                                                                                                  ₽
                                                                                                                                                 δÕ
                                                                                                                                                                  밁
                                                                                                                                                                                 Š
                                                                                                                                                                                                 В
                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                    Query Match
Best Local
                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                    VARSPLIC
SEQUENCE
                                                                                                                                                                                                                                                                                                                     TRANSMEM
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                            TRANSMEM
DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                             DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                             SITE
                                                                                                                                                                                                                                                                                                             SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Prints; PR01072; PRESENTED PRINTS; PR01072; Phosphorylation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pfam; PF01080; Presenilin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                the
                                                                                                                                                                                                                                                                                                                                             TRANSMEM
                                                                                                                                                                                                                                                                                                                                                       DOMAIN
                                                                                                                                                                                                                                                                                                                                                              TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                      DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                      DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                             TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                      DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                              CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                     CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEROPS;
                                                                                                                                                                                                                                                                                                                                     DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              InterPro; IPR001108; Presenilin
                                                                  241
 361
                361
                                 301
                                                  301
                                                                                 241
                                                                                                  181
                                                                                                                  181
                                                                                                                                  121
                                                                                                                                                 121
                                                                                                                                                                   61
                                                                                                                                                                                  61
                                                                                                                                                                                                   ш
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               s SWISS-PROT entry is copyright. It is produced through a collab
ween the Swiss Institute of Bioinformatics and the EMBL outst
European Bioinformatics Institute. There are no restrictions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PTM: PHOSPHORYLATED SIMILARITY: BELONGS
                                                                                                                                                                                                 LPEWTAMLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE
                                                                                                                                                                  YLGEVFKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY
                                                                                                                                   DTETVGQRALHSVLNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLFFFSFI
                                                                                                                                           DTETVGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLFFFSFI
                                                                                                  YLGEVFKTYNVAVDYITVALLIWNFGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY
                                                                                                                                                                                                                                   al Similarity
443; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A22.001;
                                                                                                                                                                                                                                                                 26
467
                                                                                                                                                                                                                                                                                                             82
103
133
154
161
161
182
191
212
221
242
244
265
408
433
                                                                                                                                                                                                                                                                                                                                                                                                                                                             splicing
                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                             292
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CAA95930.1;
                                                                                                                                                                                                                                                                    AA,
                                                                                                                                                                                                                                                                                                            298
467
81
102
132
153
150
1181
190
241
221
243
264
407
428
453
                                                                                                                                                                                                                                                                    29
52384
                                                                                                                                                                                                                                            95.18;
94.98;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ON SERINE RESIDUES (BY SIMILARITY).
TO THE PRESENILIN FAMILY.
                                                                                                                                                                                                                                                                     ₹.
                                                                                                                                                                                                                                   11;
                                                                                                                                                                                                                                  Score 2275; DI
Pred. No. 3.5e
11; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                            PRESENILIN 1
PRESENILIN 1
CYTOPLASMIC
POTENTIAL.
                                                                                                                                                                                                                                                                                    ALTERNATIVE PROTEOLYTIC CLEAVAGE SIMILARITY).
                                                                                                                                                                                                                                                                                                    ALTERNATIVE SIMILARITY).
                                                                                                                                                                                                                                                                                                                            CYTOPLASMIC POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                     CYTOPLASMIC (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                             POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                     CYTOPLASMIC (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                             POTENTIAL
                                                                                                                                                                                                                                                                                                                      POTENTIAL
                                                                                                                                                                                                                                                                                                                                             POTENTIAL
                                                                                                                                                                                                                                                                                                                                                      LUMENAL
                                                                                                                                                                                                                                                                                                                                                              POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                     LUMENAL
                                                                                                                                                                                                                                                                                                                                                                                                                      LUMENAL
                                                                                                                                                                                                                                                                    ISSING (IN ISOFORM D986FF2CA7F2975C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Endoplasmic reticulum;
                                                                                                                                                                                                                                                                                                                                                                                                                    (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                     (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                    (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                             1 NTF SUBUNIT
1 CTF SUBUNIT
                                                                                                                                                                                                                                            .5e-143;
                                                                                                                                                                                                                                                                                                            PROTEOLYTIC CLEAVAGE
                                                                                                                                                                                                                                                                                                                                     (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                     (POTENTIAL)
                                                                                                                                                                                                                                                     DВ
                                                                                                                                                                                                                                                                    M I-463)
CRC64;
                                                                                                                                                                                                                                                   Length
                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                              (BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Golgi
                                                                                                                                                                                                                                                                                                                                                                                                                                              SIMILARITY).
SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        a collaboration •
                                                                                                                                                                                                                                   0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      stack;
                                                                                                                                                                                                                                                                                                             SITE
                                                                                                                                                                                                                                                                                             SITE
                                                                                                                                                                                                                                   Gaps
                                                                                                                                                  180
                                                                                                                                                                                                   60
                                                                                                                                                                                                                   60
                 420
                                 360
                                                  360
                                                                  300
                                                                                                                                   180
                                                                                                                                                                   120
                                                                                 300
                                                                                                  240
                                                                                                                 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                             YB)
                                                                                                                                                                                                                                                                                                             (BY
                                                                                                                                                                                                                                    0
```

δÃ

421

467

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PSNI_MOUSE STANDARD; PRT; 467
P49769; Q9JLP9;
01-OCT-1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence upda
16-OCT-2001 (Rel. 40, Last annotation up
Presentilin 1 (PS-1) (S182 protein).
PSENI OR PSNL1 (OR AD3H.
Mus musculus (Mouse).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sherrington R., Rogaev E.I., Liang Y., Rogaeva E.A., Levesque Ikeda M., Chi H., Lin C., Li G., Holman K., Tsuda T., Mar L., Foncin J.-F., Bruni A.C., Montesi M.P., Sorbi S., Rainero I., Pinessi L., Nee L., Chumakov I., Pollen D., Brookes A., Sanseau P., Polinsky R.J., Wasco W., da Silva H.A.R., Haines Pericak-Vance M.A., Tanzi R.E., Roses A.D., Fraser P.E., Rommens J.M., St George-Hyslop P.H.; "Cloning of a gene bearing missense mutations in early-onset Alzheimer's disease.";
                                                                                                                                                                                                                               This
                              EMBL; L42177; AAC42094.1; -.
EMBL; AF007560; AAB72049.1; -
EMBL; AF149111; AAF73153.1;
MEROPS; A22.001; -.
MGD; MGI:1202717; Psen1.
                                                                                                                             use by non-profit institutions as long modified and this statement is not removed entitles requires a license agreement (See or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                           senenscence accelerated mice (SAM P8) mice.";
Submitted (MAY-1999) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: MAY PLAY A ROLE IN INTRACELLULAR SIGNALING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE=97442406; pubMed=9295283;
Mitsudd N., Roses A.D., Vitek M.P.;
"Transcriptional regulation of the mouse
J. Biol. Chem. 272:23489-23497(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STRAIN-SAM P8; TISSUE-Hippocampus; Kumar V.B., Vyas K.C., Choudhary V.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRAIN-129/SvJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Nature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TISSUE=Brain;
MEDLINE=95319502;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MOUSE
                InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Morley J.E.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                            "Molecular cloning
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       421
                                                                                                                                                                                                                                                        EXPRESSION OR IN LINKING CHROMATIN TO THE NUCLEAR MEMBRANE. MAY FUNCTION IN THE CYTOPLASMIC PARTITIONING OF PROTEINS.
SUBUNIT: PREDOMINATILY HETERODIMER OF A N-TERMINAL (NTF) AND C-TERMINAL (CTF) ENDOPROTEOLYTICAL FRAGMENT (BY SIMILARITY).
SUBCELLULAR LOCATION: INTEGRAL MEMBRANE PROTEIN. GOLGI AND ENDOPLASMIC RETICULUM (BY SIMILARITY).
ENDOPLASMIC RETICULUM (BY SIMILARITY).
STMILARITY: BELONGS TO THE PRESENILIN FAMILY.
                                                                                                                                                                                           s SWISS-PROT entry is copyright. It is produced through a collaboration ween the Swiss Institute of Bioinformatics and the EMBL outstation - European Bioinformatics Institute. There are no restrictions on its
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TLLLLAIFKKALPALPISITEGLVFYFATDYLVQPFMDQLAFHQFYI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          375:754-760(1995).
                IPR001108;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PubMed=7596406;
                                                                                                                                                                                                                                                                                                                                                                                                                                            and tissue distribution
                  Presenilin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     update)
on update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Franko
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       467
                                                                                                                                            Noved. Usage by and for (See http://www.isb-sib.
                                                                                                                                                                            There are no rest
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        presenilin-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A
                                                                                                                                                                                                                                                                                                                                                                                                                                  <u>-</u> ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          .
.
                                                                                                                                                                                                                                                                                                                                                                                                                                          presenilin-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Flood
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gene.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          J.F.,
                                                                                                                                                                                                                                                                                                                                                                                              AND
                                                                                                                                                                                                                                                                                                                                                                                                                                            in
                                                                                                                                                               for
                                                                                                                                                                                                                                                                                                                                                                                            GENE
                                                                                                                                                                                                                                                                                                                                             Þ
                                                                                                                                                                              no
                                                                                                                                                                            way
```

PSN1_RAT
ID PSN1
AC P978
DT 15-J
DT 15-J

PSN1_RAT \$\ \text{P97887; P97529;} \ 15-JUL-1999 (Re] \ 15-JUL-1999 (Re]

STANDARD;

PRT;

468

(Rel.

38,

Last Created)

sequence

```
Ωy
                                 밁
                                                  Ωy
                                                                      В
                                                                                      Qy
                                                                                                          밁
                                                                                                                           Qy
                                                                                                                                               В
                                                                                                                                                              Qy
                                                                                                                                                                                  Вb
                                                                                                                                                                                                                                       QΥ
                                                                                                                                                                                                                                                          Дb
밁
                                                                                                                                                                                                   20
                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local S
Matches 432
                                                                                                                                                                                                                                                                                                                                  VARIANT
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                    VARIANT
VARIANT
VARIANT
VARIANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                  SITE
                                                                                                                                                                                                                                                                                                                                                                                                                             TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                              DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRINTS; PR01072;
                                                                                                                                                                                                                                                                                                                                                                                                                                       TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                        TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DOMAIN
421
                 421
                                   361
                                                    361
                                                                       301
                                                                                        301
                                                                                                          241
                                                                                                                            241
                                                                                                                                               181
                                                                                                                                                                 181
                                                                                                                                                                                  121
                                                                                                                                                                                                     121
                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                         ب
                                                                                                                                                                                                                                                                            \vdash
                                                                                                         TLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI
                                                                               GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                                          DTETVGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLEFFESFI 180
                                                                                                                                                                                                                               QVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTE
                                                                                                                                                                                                                                                         MTEIPAPLSYFQNAQMSEDSHSSSAIRSQNDSQERQQQHDRQRLDNPEPISNGRPQSNSR
                                                                                                                                                                                                                                                                            MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR
TLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI
                                           VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL
                                                                      GDPEAQRRVPKNPKYNTQRAERETQDSGSGNDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                                                                       QVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTE
                                   VQELSGSILTSEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL
                                                                                                                                                                                  DTETVGQRALHSILNAAIMISVIVIMTILLVVLYKYRCYKVIHAWLIISSLLLLFFFSFI
                                                                                                                                                                                                                                                                                                       Similarity
                                                                                                                                                                                                                                                                                                                                  9
40
67
196
321
467
                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                             104
104
1133
1154
1161
1182
1195
2216
2216
2242
                                                                                                                                                                                                                                                                                                                                                                                                  292
                                                                                                                                                                                                                                                                                                                                   A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Phosphorylation;
                                                                                                                                                                                                                                                                                                                            9
40
67
196
322
52639.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRESENILIN
                                                                                                                                                                                                                                                                                                       93.6%;
                                                                                                                                                                                                                                                                                                                                   WW.
                                                                                                                                                                                                                                                                                              18;
                                                                                                                                                                                                                                                                                                                                  SIMILARITY).

S'Y (IN STRAIN SAM P8).

D'Y (IN STRAIN SAM P8).

E'Y CM (IN STRAIN SAM P8).

V'Y L (IN STRAIN SAM P8).

ER'Y RD (IN STRAIN SAM P8).

ER'Y RD (IN STRAIN SAM P8).
                                                                                                                                                                                                                                                                                            Score 2237; DB 1;
Pred. No. 1.1e-140;
Pred. No. 1.7e-140;
                                                                                                                                                                                                                                                                                                                                                                                               SIMILARITY). ALTERNATIVE PROTEOLYTIC CLEAVAGE SITE
                                                                                                                                                                                                                                                                                                                                                                                                                   ALTERNATIVE
                                                                                                                                                                                                                                                                                                                                                                                                                             POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                       POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                             POTENTIAL.
CYTOPLASMIC (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CYTOPLASMIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CYTOPLASMIC (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  presentin 1 ctf subunit
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                LUMENAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CUMENAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                   PROTECLYTIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (POTENTIAL)
                                                                                                                                                                                                                                                                                                              Length
                                                                                                                                                                                                                                                                                              Indels
467
                 467
                                                                                                                                                                                                                                                                                                                                                                                                                   CLEAVAGE SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; Golgi stack.
(BY SIMILARITY).
(BY SIMILARITY).
                                                                                                                                                                                                                                                                                              0
                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                             60
                                                                                                                                                                                   180
                                                                                                                                                                                                                                                          60
                                                                       360
                                                                                        360
                                                                                                          300
                                                                                                                            300
                                                                                                                                               240
                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                  (BY
                                                                                                                                                                                                                                                                                              0
```

```
CONFLICT
CONFLICT
SEQUENCE
                                                                                                                                       TRANSMEM
DOMAIN
TRANSMEM
DOMAIN
TRANSMEM
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FACE TISSUE-Brain;
STRAIN-Wistar; TISSUE-Brain;
MEDLINE-9719371; PubMed-9047347;
MEDLINE-9719371; PubMed-9047347;
Taniguchi T., Hashimoto T., Taniguchi R., Koizumi
Taniguchi M., Nakai M., Terashima A., Koizumi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
NCBI_TaxID=10116;
                                                                                                  DOMAIN
TRANSMEM
DOMAIN
                                                                                 TRANSMEM
DOMAIN
                                                                                                                                                                                                                                                                                                   This SWISS-PROT entry is copyright. It is produced through a collab between the Swiss Institute of Bioinformatics and the EMBL outst the European Bioinformatics Institute. There are no restrictions use by non-profit institutions as long as its content is in modified and this statement is not removed. Usage by and for comentities requires a license agreement (See http://www.isb-sib.ch/an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Takahashi H., Murayama
Noguchi K., Imahori K.,
"Molecular cloning and
                                      SITE
                                                        SITE
                                                                                                                                                                                                              CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STRAIN=Wistar; TISSUE-Brain; MEDLINE=96255262; PubMed=8710164;
                                                               TRANSMEM
                                                                                                                              TRANSMEM
                                                                                                                                                                                             DOMAIN
                                                                                                                                                                                                                       Transmembrane;
                                                                                                                                                                                                                                PRINTS;
                                                                                                                                                                                                                                           rram;
                                                                                                                                                                                                                                                  InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Yasuda M., Nakai M., Terashima 
"Cloning of the cDNA encoding 
Gene 186:73-75(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       16-OCT-2001 (Rel. 40, Presenilin 1 (PS-1) (
                                                                          TRANSMEM
                                                                                                                                                                                                                                                                   ; D82578;
; D82363;
                                                                                                                                                                                                                                         PF01080; Presenilin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                OR PSNL1
                                                                                                                                                                                                                                                          A22.001;
                                                                                                                                                                                                                                                                                            an email to license@isb-sib.ch).
                                                                                                                                                                                                                                PR01072; PRESENILIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FROM N.A.
                                                                                                                                                                                                                                                 IPR001108; Presenilin.
                                                                                 104
104
1133
1154
1161
1182
1195
216
221
242
242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Murayama M.,
                                                                                                                                                                                                                                                                 BAA11575.1;
BAA11564.1;
 Ą,
                                                                                                                                                                                                                      Phosphorylation;
                                                      468
103
1132
1153
1153
1160
1160
1181
1194
428
426
440
77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0, Last annotation update)
(S182 protein)
 52790
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      expression
 MW.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Takashima
         ಶಶ
                                            POTENTIAL.
POTENTIAL.
ALTERNATIVE PROTEOLYTIC
SIMILARITY).
                                                                                POTENTIAL.
CYTOPLASMIC
                                                                                                                                                                                         on; Endoplasmic reticulum; PRESENILIN 1 NTF SUBUNIT (PRESENILIN 1 CTF SUBUNIT (CYTOPLASMIC (POTENTIAL).
                           ALTERNATIVE PROTEOLYTIC SIMILARITY).
                                                                                                            CYTOPLASMIC (POTENTIAL)
POTENTIAL.
                                                                                                                              POTENTIAL.
                                                                                                                                                       POTENTIAL.
CYTOPLASMIC (POTENTIAL)
                                                                                                                                               POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          aniguchi R., Shimada K.,
a A., Koizumi T., Maeda |
rat presenilin-1.";
                                                                                                                                        LUMENAL
                                                                                                   LUMENAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Craniata; Vert
Sciurognathi;
-> S (IN REF. 2).
-> R (IN REF. 2).
17CB791E88A16FC0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Α.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      the
                                                                                                                                      (POTENTIAL)
                                                                                                                                                                          (POTENTIAL).
                                                                                                  (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Vertebrata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      rat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mercken M.,
                                                                                (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      homologue
CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Euteleostomi;
; Murinae; Rat
                                     CLEAVAGE
                                                      CLEAVAGE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Nakazato
                                                                                                                                                                                                   Golgi stack.
(BY SIMILARITY).
(BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Kawamata
                                                                                                                                                                                                                                                                                                                                          a collaboration -
                                                                                                                                                                                                                                                                                                 for commercial ib.ch/announce/
                                    SITE
                                                      SITE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Υ.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Rattus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     T.,
                                                                                                                                                                                                                                                                                                                         no
                                                                                                                                                                                                                                                                                                                                õ
                                    (BY
                                                      (BY
```

```
ρy
                                                Вb
                                                                       δÃ
                                                                                                밁
                                                                                                                        ρy
                                                                                                                                                  뮍
                                                                                                                                                                        Q
                                                                                                                                                                                                   밁
                                                                                                                                                                                                                          Ωy
                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                         Qγ
                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                          Qy
                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                             QΥ
                                                                                                                                                                                                                                                                                                                                                                                                           Matches 432;
                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local :
                         419
  420
                                                  360
                                                                           359
                                                                                                   300
                                                                                                                           300
                                                                                                                                                    240
                                                                                                                                                                             240
                                                                                                                                                                                                      180
                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                       60
                                                                                                                                                                                                                                                                                                                                60
                                                                                                                                                                                                                                                                                                                                                                      MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGN-S
CLTLLLLAIFKKALPALPISITFGLIFYFATDYLVQPFMDQLAFHQFYI
             CLTLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI
                                                            AAVQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGL
                                                                                                                EGDPEAQRRVSKNSKYNAESTER-ESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESR
                                                                                                                                                    YLPEWTAWLILAVISYYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMA
                                                                                                                                                                  YLPEWTAWLILAVISYYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNWA
                                                                                                                                                                                                   EDTETYGQRALHSILNAAIMISVIVWTILLVVLYKYRCYKVIHAWLIISSLLLLFFFSF
                                                                                                                                                                                                                                                                                                                  RQVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFT
                                                                                                                                                                                                                                                                                                                                                         MTEIPAPLSYFQNAQMSEDSH-SSSVRSQNDNQERQQHHDRQRLDNPESISNGRPQSNFT
                                                  AAVQELSGSILTSEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGL
                                                                                                   EGDPEAQRRVPKNPKYSTQGTEREETQDTGTGSDDGGFSEEWEAQRDSHLGPHRSTPESR
                                                                                                                                                                                                                                                      EDTETVGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIVSSLLLLFFFSF
                                                                                                                                                                                                                                                                                                       RQVIEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFT
                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity
                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                       92.4%;
92.1%;
                                                                                                                                                                                                                                                                                                                                                                                                           19;
                                                                                                                                                                                                                                                                                                                                                                                                                       Score 2209
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                      7.3e-139;
                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                  Length
                         467
                                                                                                                                                                                                                                                                                                                                                                                                           Ψ
                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                     239
                                                                                                                                                                                                                                                       179
                                                                                                                                                                                                                                                                             179
                                                                                                                                                                                                                                                                                                       119
                                                                                                                                                                                                                                                                                                                                                                                  59
                                                                                                                            358
                                                                                                                                                     299
                                                                                                                                                                             299
                                                                                                                                                                                                                            239
                                                                                                   359
                                                                                                                                                                                                                                                                                                                                                                                                           ω
```

```
RESULT 5
PSN1_B
AC 99XT97
DT 16-OCT

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            16-OCT-2001 (Rel. 40,
16-OCT-2001 (Rel. 40,
16-OCT-2001 (Rel. 40,
Presenilin 1 (PS-1).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sahara N., Shirasawa T., MOri H.;
"Molecular cloning of bovine presentiin 1 gene.";
submitted (DEC-1997) to the EMBL/GenBank/DDBJ databases.
Submitted (DEC-1997) to THE EMBL/GenBank/DDBJ databases.
PUNCTION: MAY PLAY A ROLE IN INTRACELULLAR SIGNALING AND GENERAL EXPRESSION OR IN LINKING CHROMATIN TO THE NUCLEAR MEMBRANE.
FUNCTION IN THE CYTOPLASMIC PARTITIONING OF PROTEINS (BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa; Chordata; Crania: Mammalia; Eutheria; Cetartiodactyla; Bovidae; Bovinae; Bos.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM TISSUE-Brain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PSN1_BOVIN
Q9XT97;
                                                                                       between
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bos taurus (Bovine)
                                                                                                                                                                           SIMILARITY). AND SUBUNIT: PREDMINANTLY HETERODIMER OF A N-TERMINAL (NTF) AND SUBUNIT: PREDMINANTLY HETERODIMER OF A N-TERMINAL (NTF) AND C-TERMINAL (CTF) ENDOPROTEOLYTICAL FRAGMENT (BY SIMILARITY). SUBCELLULAR LOCATION: INTEGRAL MEMBRANE PROTEIN. GOLGI AND ENDOPLASMIC RETICULUM (BY SIMILARITY). PTM: PHOSPHORYLATED ON SERINE RESIDUES (BY SIMILARITY). SIMILARITY: BELONGS TO THE PRESENILIN FAMILY.
                                                European
    SWISS-PROT entry is copyright. It is produced through a collaboration een the Swiss Institute of Bioinformatics and the EMBL outstation - European Bioinformatics Institute. There are no restrictions on its by non-profit institutions as long as its content is in no way
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   40,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        , Created)
, Last sequ
, Last anno
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            sequence up
annotation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Craniata; Vertebrata; Euteleostomi; actyla; Ruminantia; Pecora; Bovoidea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pecora; Bovoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MA
```

```
RESULT 6
PSN1_XENLA
ID PSN1_XENLA
                                                                                                                                                                                                                                 ΩЪ
                                                                                                                                                                                                              δĀ
                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                   ᄝ
                                                                                                                                                                                                                                                                                                                        ν
                                                            - 6
                                                                                 망
                                                                                                    Š.
                                                                                                                      g
                                                                                                                                      δÃ
                                                                                                                                                      -B
                                                                                                                                                                          δŌ
                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                    δã
                                                                                                                                                                                                                                                                                                        Ъ
                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                            Matches 428;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pfam;
                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Transmembrane;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRINTS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEROPS; A22.001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               modified and this statement is not removed entities requires a license agreement (See or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                     TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                              DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                            FRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                     FRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              InterPro;
                                               421
                                                                410
                                                                                   361
                                                                                                     350
                                                                                                                      301
                                                                                                                                        300
                                                                                                                                                          241
                                                                                                                                                                            240
                                                                                                                                                                                              181
                                                                                                                                                                                                                180
                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                      60
                                                                                                                                                                                                                                                                                                        _
                                                        CFVAILIGLCLTLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI
                                                                                                                               EGDPEAQRRVSKNSKYNAE------
                                                                                                                                                                    YLPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMA
                                                                                                                                                                                            RQVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFT
                                                                                                                                                                                                                                                                                                                 MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEH-NDRRSLGHPEPLSNGRPQGNS
                                              CFVAILIGLCLTLLLLAIFKKALPALPVSITFGLIFYFATDYLVQPFMDQLAFHQFYI
                                                                                           PHRSTPESRAAVQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIA
                                                                                                                                                          YLPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMA
                                                                                                                                                                                                                                         EDTETVGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLFFFSF
                                                                                   PHHSTAESRSAVQDLSSSILASEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIA
                                                                                                                      EGDPEAQRKVSKNSNYNAQRPANSPYTTTGTESESQDPVTESDDGGFSEEWEAQRDSRLG
                                                                                                                                                                                                                                 EDTETVAQRALHSILNAVIMISVIVIMTILLVVLYKYRCYKVIHAWLIVSSLLLLFFFSF
                                                                                                                                                                                                                                                                                                        MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDSRERHEHGNERRRGNTESVSNGRAPSSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AF038936; AAD39023.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PF01080; Presenilin;
                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PR01072;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IPR001108; Presenilin.
                                                                                                                                                                                                                                                                                                                                                                               478
                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                               AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Phosphorylation;
  STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRESENILIN
                                                                                                                                                                                                                                                                                                                                                                                                                 53653 MW;
                                                                                                                                                                                                                                                                                                                                                   91.4%;
89.5%;
                                                                                                                                                                                                                                                                                                                                            19;
                                                                                                                                                                                                                                                                                                                                                    Pred.
                                                                                                                                                                                                                                                                                                                                                            Score
                                                                                                                                                                                                                                                                                                                                                                             POTENTIAL.
ALTERNATIVE PROTEOLYTIC CLEAVAGE SITE SIMILARITY).
ALTERNATIVE PROTEOLYTIC CLEAVAGE SITE SIMILARITY).
; 59E3FC0A1010D906 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                          LUMENAL (POTENTIAL)
POTENTIAL
CYTOPLASMIC (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CYTOPLASMIC (POTENTIAL) POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  POTENTIAL.
CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              n; Endoplasmic reticulum; PRESENILIN 1 NTF SUBUNIT PRESENILIN 1 CTF SUBUNIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                   POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LUMENAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LUMENAL (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               POTENTIAL.
  PRT;
                                                                                                                                                                                                                                                                                                                                           ed. No. 3.30
Mismatches
                                                                                                                               -STERESQDTVAENDDGGFSEEWEAQRDSHLG
                                                                                                                                                                                                                                                                                                                                                             2184.5;
  433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       noved. Usage by and for commercial (See http://www.isb-sib.ch/announce/
  AA
                                                                                                                                                                                                                                                                                                                                                    3e-137;
                                                                                                                                                                                                                                                                                                                                                             DB 1;
                                                                                                                                                                                                                                                                                                                                            20;
                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                           Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (BY SIMILARITY).
(BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                           11;
                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                467
                                                                                                    409
                                                                                                                      360
                                                                                                                                                          300
                                                                                                                                                                                                               239
                                                                                                                                                                                                                                 180
                                                                                                                                                                                                                                                  179
                                                                                                                                                                                                                                                                                     119
                                                                                                                                                                                                                                                                                                                        59
                                                                                                                                        349
                                                                                                                                                                           299
                                                                                                                                                                                            240
                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                       60
                                                                                                                                                                                                                                                                                                                                                                                               (BY
                                                                                                                                                                                                                                                                                                                                                                                                                 (BY
                                                                                                                                                                                                                                                                                                                                           2
```

```
OF THE PROPERTY OF THE PROPERT
                  Š
                                                        Вþ
                                                                                      Qy
                                                                                                                                   Вр
                                                                                                                                                                     Ş
                                                                                                                                                                                                             Query Match
Best Local S
Matches 357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          012976;
15-JUL-1999 (Rel.
15-JUL-1999 (Rel.
15-JUL-1999 (Rel.
Presenilin alpha.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               modified
entities
                                                                                                                                                                                                                                                                                                                                                  TRANSMEM TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                         TRANSMEM
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                             TRANSMEM
TRANSMEM
TRANSMEM
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         "Cloning of Xenopus presentlin-alpha and -beta cDNAs and differential expression in oogenesis and embryogenesis."; Biochem. Biophys. Res. Commun. 231:392-396(1997).

- FUNCTION: MAY PLAY A ROLE IN NEGATIVE REGULATION OF A CASCADES DURING OOGENESIS AND IN DEVELOPMENTALLY MATURED TISSUES SUCH AS BRAIN TISSUE.
                                                                                                                                                                                                                                                                                            SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRINTS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              This
                                                                                                                                                                                                                                                                                                            CARBOHYD
                                                                                                                                                                                                                                                                                                                                  CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Transmembrane;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEROPS; A22.001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Xenopus laevis (African clawed
Eukaryota; Metazoa; Chordata; (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; D84427; BAA19570.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             between
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TISSUE=Brain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Amphibia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=97223465;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Kenopodinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PS-ALPHA
                  159
                                                        9
                                                                                            99
                                                                                                                                                                         39
                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     s SWISS-PROT entry is copyright. It is produced through a collaboration ween the Swiss Institute of Bioinformatics and the EMBL outstation - European Bioinformatics Institute. There are no restrictions on its
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SUBCELLULAR LOCATION: Integral membrane protein (By similarity). TISSUE SPECIFICITY: HIGHEST EXPRESSION IN OVARIES AND TO A LESSER EXTENT IN TESTIS, INTESTINE, KIDNEY, BRAIN, EYE AND LUNC. WEAK EXPRESSION IN LIVER AND HEART. PRESENT IN TRACE AMOUNTS IN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FERTILIZATION STAGES.
SIMILARITY: BELONGS T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SKELETAL MUSCLE.
DEVELOPMENTAL STAGE: ABUNDANT
EXPRESSION IS RAPIDLY REDUCED
                                                    YKVIHAWLIISSLLLLFFFSFIYLGEVFKTYNVAVDYITVALLIWNLGVVGMISIHWKGP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PF01080; PS; PR01072;
                                                                                                                                                                                                               1 Similarity
357; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               non-profit institutions as long as its content is in no way and this statement is not removed. Usage by and for commercial requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IPR001108; Presenilin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae; ae; Xenopus.
                                                                                                                                                                                                                                                                                            433
                                                                                                                                                                                                                                                                                                                48
99
127
161
184
210
247
247
399
399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (Rel.
(Rel.
(Rel.
                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Presenilin;
                                                                                                                                                                                                                                                                                            AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Glycoprotein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRESENILIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PubMed=9070286;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3888
                                                                                                                                                                                                                                                                                                              119
147
181
204
230
230
230
267
394
419
245
                                                                                                                                                                                                                                                                                            48301
                                                                                                                                                                                                                                   75.4%;
83.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Created)
Last sequence up
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TO THE PRESENILIN FAMILY.
                                                                                                                                                                                                                                                                                            ₩;
                                                                                                                                                                                                                                                                                        POTENTIAL.
POTENTIAL.
POTENTIAL.
POTENTIAL.
POTENTIAL.
POTENTIAL.
POTENTIAL.
POTENTIAL.
N-LINKED (GLCNAC. . . ) (POTENTIAL).
N-LINKED (GLCNAC. . . ) (POTENTIAL).
MW; 71CCEE3F6BB9COAF CRC64;
                                                                                                                                                                                                               27;
                                                                                                                                                                                                             Score 1804; D
Pred. No. 3.8e
27; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             d frog).
Craniata; Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BETWEEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                z
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EARLY STAGES
                                                                                                                                                                                                                               DB 1;
3.8e-112;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       here are no restrictions as its content is in
                                                                                                                                                                                                                 44;
                                                                                                                                                                                                                                               Length 433;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MATURATION AN
                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APOPTOTIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              their
                                                                                                                                                                                                               2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     in no way
                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              THE
                                                            124
                                                                                                                                     64
                                                                                                                                                                           98
                    218
                                                                                              158
                                                                                                                                                                                                                 2
```

```
RESULT TO SEE THE RESULT TO SE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             믕
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLING E., Wasco W., Poorkaj F., Noming S.D., Wang S., Levy-Lahad E., Wasco W., Poorkaj F., Schmidt S.D., Wang S., Pettingell W.H., Yu C.-E., Jondro P.D., Schmidt S.D., Wang S., Pettingell W.H., Yu C.-E., Jondro P.D., Schmidt S.D., Wang S., Crowley A.C., Fu Y.-H., Guenette S.Y., Galas D., Nemens E., Crowley A.C., Fu Y.-H., Guenette S.Y., Galas D., Tanzi R.E., Wijsman E.M., Bird T.D., Schellenberg G.D., Tanzi R.E., Wijsman E.M., Bird T.D., Schellenberg G.D., Tanzi R.E., Wijsman E.M., Bird T.D., Schellenberg G.D., Tanzi R.E.,
                                                                                                                                                                                                                                                                                                                                                                                                                                              Rogaev E.I., Sherrington R., Rogaeva E.A., Levesque G., Ikeda M., Liang Y., Chi H., Lin C., Holman K., Tsuda T., Mar L., Sorbi S., Nacmias B., Piacentini S., Amaducci L., Chumakov I., Cohen D., Lannfelt L., Fraser P.E., Rommens J.M., St George-Hyslop P.H.; "Famillal Alzheimer's disease in kindreds with missense mutations a gene on chromosome 1 related to the Alzheimer's disease type 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-OCT-1996 (Rel. 34, Created)
01-OCT-1996 (Rel. 34, Last sequence up
16-OCT-2091 (Rel. 40, Last annotation
Presentlin 2 (PS-2) (STM-2) (E5-1) (AL
PSENZ OR PSNLZ OR AD4 OR PS2 OR STM2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PSN2_HUMAN P49810;
                                                                                                                                                                                                     Li J., Ma J., Potter H.; "Identification and expression analysis of a potential Alzheimer disease gene on chromosome 1 related to AD3." Proc. Natl. Acad. Sci. U.S.A. 92:12180-12184(1995).
  MEDLINE=96160372;
                              SUBCELLULAR LOCATION,
                                                                               Submitted
                                                                                                        Levy-Lahad E., Poorkaj P.,
Mulligan J., Schellenberg
                                                                                                                                                                                                                                                                                                                                                                                                Nature 376:775-778(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TISSUE-Brain, and Colon; MEDLINE-95379971; PubMed-7651536;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A., AND VARIANTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Science
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A., AND VARIANT FAD MEDLINE=95365816; PubMed=7638622;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     HUMAN
                                                                                                                                                                                                                                                                                                                   MEDLINE=96109229;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               279
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      185
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DQLAFHQFYI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DQLAFHQFYI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATASGDWNTTLACEVAILIGLCLTLLLLAIEKKALPALPISITEGLVEYEATDYLVQPEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATASGDWNTTIACFVAILIGLCLTLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TTWEDHRNAQIGPINSTPESRVAVQALPSNSPPSEDPEERGVKLGLGDFIFYSVLVGKAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EEWEAQRDSHLGPHRSTPESRAAVQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NETLFFALIYSSTMYWLVNMAEGDPEAQRRVSKNSKYNAES-TERESQDTVAENDDGGFS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      YKVIHGWLIISSLLLLFFFSYIYLGEVFKTYNVAVDYITLALLIWNFGVVGMICIHWKGP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NETLFPALIYSSTMIWLVNMADGDPGLKQSASTKT-YNTQAPTAHPRSDSAASDDNGGFD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   269:973-977(1995).
                                                                               (JUL-1996)
                                                                                                                                                         N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            467
                                                                                                                                                                                                                                                                                                                   PubMed=8618867;
     PubMed-8574969
                                                                               6
                                                                               the
                                                                                                          G
                              TISSUE
                                                                                                                              Wang
                                                                               EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FAD ILE-141
                           SPECIFICITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ion update)
(AD3LP) (A
                                                                                                                              Fu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ILE-141.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       448
                                                                                                                           Y.H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (AD5).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AND
                                                                                                                                Oshima
                                                                               databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VAL-239
                                                                                                                                                                                                                                                                 familial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        303
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    278
```

```
RA FINCE U., Mueller Thomsen T., Mann U., Eggers C., Marksteiner J.,
RA Meins W., Binetti G., Alberici A., Hock C., Nitsch R.M., Gal A.;
RT Meins W., Binetti G., Alberici A., Hock C., Nitsch R.M., Gal A.;
RT Migh prevalence of pathogenic mutations in patients with early-onset
RT dementia detected by sequence analyses of four different genes.";
RT Am. J. Hum. Genet. 66:110-117(2000).
CC EXPRESSION OR IN LINKING CHROMATIN TO THE NUCLEAR MEMBRANE. MAY
CC EXPRESSION OR IN LINKING CHROMATIN TO THE NUCLEAR MEMBRANE. MAY
CC FUNCTION IN THE CYTOPLASMIC PARTITIONING OF PROTEINS. IS INVOLVED
CC IN THE PROTEOLYTICAL PROCESSING OF AMYLOID PRECURSOR PROTEIN (APP)
CC IN THE PROTED MINANTLY HETERODIMER OF A N-TERMINAL (NTF) AND A
CC -I- SUBGUNIT: PREDOMINANTLY HETERODIMER OF A N-TERMINAL (NTF) AND A
CC -I- SUBGUNIT: PREDOMINANTLY HETERODIMER OF A N-TERMINAL FRAGMENTS C83
CC -I- SUBCELLULAR LOCATION: INTEGRAL MEMBRANE PROTEIN. GOLGI AND
CS SUBCELLULAR LOCATION: INTEGRAL MEMBRANE PROTEIN. GOLGI AND
CC -I- SUBCELTAL MUSCLE AND HEART WHILE THE SHORTER FORM IS SEEN IN THE
CC -I- SUBCETAL MUSCLE AND HEART WHILE THE SHORTER FORM IS SEEN IN THE
CC -I- TISSUE SPECIFICITY: THE LARGER FORM IS SEEN IN THE
CC -I- TISSUE SPECIFICITY: THE LARGER FORM IS SEEN IN THE
CC -I- TISSUE SPECIFICITY: THE LARGER FORM IS SEEN IN THE
CC -I- TISSUE SPECIFICITY: THE LARGER FORM IS SEEN IN THE
CC -I- TISSUE SPECIFICITY: THE LARGER FORM IS SEEN IN THE
CC -I- TISSUE SPECIFICITY: THE LARGER FORM IS SEEN IN THE
CC -I- TISSUE SPECIFICITY: THE LARGER FORM IS SEEN IN THE
CC -I- TISSUE SPECIFICITY: THE LARGER FORM IS SEEN IN THE
CC -I- TISSUE SPECIFICITY: THE LARGER FORM IS SEEN IN THE
CC -I- TISSUE SPECIFICITY: THE LARGER FORM IS SEEN IN THE
CC -I- TISSUE SPECIFICITY: THE LARGER FORM IS SEEN IN THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE-99428546; PubMed-10497236;
Steiner H., Duff K., Capell A., Romig H., Grim M.G.
Hardy J., Yu X., Picciano M., Fechteler K., Citron
Pesold B., Keck S., Baader M., Tomita T., Iwatsubo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Cruts M., van Duijn C.M., Backhovens H., van den Broeck Wehnert A., Serneels S., Sherrington R., Hutton M., Hard St George-Hyslop P.H., Hoffman A., van Broeckhoven C.; "Estimation of the genetic contribution of presentlin-1 mutations in a population-based study of presentle Alzhe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          mutations in a population-based study
disease.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE-98180715; PubMed-9521418;
Cruts M., van Broeckhoven C.;
"Presenilin mutations in Alzheimer's
Hum. Mutat. 11:183-190(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE=20119269; PubMed=10652302; Kimberly W.T., Xia W., Rahmati T., Wolfe M.S., Selkoe D.J.; Kimberly W.T., Xia W., Rahmati T., Wolfe M.S., Selkoe D.J.; "The transmembrane aspartates in presentlin 1 and 2 are obligatory gamma-secretase activity and amyloid beta-protein generation."; J. Biol. Chem. 275:3173-3178(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "A loss of function mutation of presentlin-2 interferes beta-peptide production and notch signaling.";
J. Biol. Chem. 274:28669-28673(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VARIANTS EOAD PRO-122 AND ILE-239. MEDLINE-20100613; PubMed-10631141;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Lao J.I., Beyer K., Fernandez-Novoa "A novel mutation in the predicted I in Spanish patient with late-onset &
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VARIANT AD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VARIANT AD HIS-62.
MEDLINE-98046005;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Merriam D.E., Hollister R.D., Hallmark O.G., Mancini R., Felsenstein K.M., Hyman B.T., Tanzi R.E., Wasco W.; Felsenstein K.M., Hyman B.T., Tanzi R.E., Wasco W.; "Alzheimer-associated presentlins 1 and 2: neuronal expression brain and localization to intracellular membranes in mammalian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Neurogenetics 1:293-296(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MUTAGENESIS OF ASP-263 AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MUTAGENESIS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Kovacs D.M., Fausett H.J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            REVIEW ON VARIANTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       <u>@</u>
                                                              HEART, BRAIN, PLACENTA, LIVER, PTM: HETEROGENEOUS PROTEOLYTIC AND C-TERMINAL FRAGMENTS.
                   PTM: PHOSPHORYLATED ON SERINE DISEASE: DEFECTS IN PSEN2 ARE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      M., van Duijn C.M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Genet.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2:224-229(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ILE-148.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ę
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ASP-366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                7:43-51(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PubMed=9384602;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Page K.J., Kim T.-W., Moiz
D., Hallmark O.G., Mancini
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ASP-366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               a L., Cacabelos R.;
TM2 domain of the presenilin
Alzheimer's disease.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       disease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Moir
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Broeck M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          , Lincoln S.,
w., Kopan R.,
r., Baumeister
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Hardy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             R.D.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   with
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              amyloid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ₽.
```

DISEASE RESIDUES.
RESPONSIBLE

(EOAD),

FOR

EARLY - ONSET

 \mathbf{SI}

TSOM

```
CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                   DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TRANSMEM
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Transmembrane; Phosphorylation; Endoplasmic reticulum; Golgi stack; Alzhelmer's disease; Disease mutation; Alternative splicing.

CHAIN 1 297 PRESENILIN 2 NTF SUBUNIT (BY SIMILARITY).

CHAIN 298 448 PRESENILIN 2 CTF SUBUNIT (BY SIMILARITY).
                                                                                                                                                                                                                                                        VARIANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL; L43964; AAB59557.1; -.
EMBL; L44577; AAC42012.1; -.
EMBL; U34349; AAC50290.1; -.
EMBL; U50871; AAB50054.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                or send an email to license@isb~sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      the European Bioinformatics Institute. The use by non-profit institutions as long modified and this statement is not removed. entitles requires a license agreement (See
                                                                          MUTAGEN
                                                                                                              MUTAGEN
                                                                                                                                               VARIANT
                                                                                                                                                                                                                      VARIANT
                                                                                                                                                                                                                                                                                           VARIANT
                                                                                                                                                                                                                                                                                                                               VARIANI
                                                                                                                                                                                                                                                                                                                                                                TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                       TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                       DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                          TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRINTS; PR01072;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEROPS; A22.002; -. Genew; HGNC:9509; PSEN2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    This
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ÷
                                                                                                                                                                                                                                                                                                                                                VARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AMYLOID PLAQUES AND VASCULAR AMYLOID DEPOSITS.

DISEASE: THREE CAUSATIVE GENES HAVE BEEN IDENTIFIED THAT WHEN MUTATED LEAD TO PRESENILE ALZHEIMER'S DISEASE: APP (AMYLOID PRECURSOR PROTEIN GENE), PSENI AND PSENIZ THESE THREE GENES ACCOUNT FOR HALF OF THE FAMILIES WITH AUTOSOMAL DOMINAT PRESENILE AD, WHICH REPRESENT APPROXIMATELY 10% OF THE WHOLE AD POPULATION. IN ADDITION, APOLIPOPROTEIN E HAS BEEN IDENTIFIED AS A RISK-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEVERE FORM OF THE DISEASE, COMPLETE PENETRANCE, AN ONSET OCCURRING AS EARLY AS 30 YEARS OF AGE. THE SECOND FORM IS LATE-ONSET (LOAD) ALSO CALLED THE FAMILIAL ALZHEIMER DISEASE (FAD). AI IS A NEURODEGENERATIVE DISORDER CHARACTERIZED BY PROGRESSIVE DEMENTIA, PARKINSONISM, AND DEPOSITION OF FIBRILLAR AMYLOID PROTEINS AS INTRANEURONAL NEUROFIBRILLARY TANGLES, EXTRACELLULAR PROTEINS AS INTRANEURONAL NEUROFIBRILLARY TANGLES, EXTRACELLULAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SIMILARITY: BELONGS TO THE PRESENTLIN FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MODIFYING LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 600759;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SWISS-PROT entry is copyright. It is produced through een the Swiss Institute of Bioinformatics and the EN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PF01080;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IPR001108; Presenilin.
                                                                                                                                                                                                                      148
                                                                          366
                                                                                                                                                 239
                                                                                                                                                                                   239
                                                                                                                                                                                                                                                        141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           109
109
139
160
                                                                                                            263
                                                                                                                                                                                                                                                                                           122
   123
325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Presenilin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRESENILIN
   123
325
                                                                                                                                                                                                                                                                                                                                                                                                  148
                                                                                                                                                                                                                                                      141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        license agreement (See http://www.isb-sib.ch/announce/
PROCESSING.
P -> T (IN F
MISSING (IN
                                                                      IN APP
D->A: F
                                                                                                                                                                                                                                                                                                                               MISSING
R -> H (
                                                                                                                                                                                                                  /FTId=VAR_006462.
V -> I (IN FAD; LOAD;
                                                                                                                                                                                                                                                                                                                                                                                                POTENTIAL.
CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CYTOPLASMIC (POTENTIAL).
POTENTIAL.
                                                                                                                                            M -> I (IN EOAD).
/FTId=VAR_009215.
M -> V (IN FAD; IT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CYTOPLASMIC (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CYTOPLASMIC (POTENTIAL).
                                                        IN APP PROCESSING
                                                                                                                                                                                                                                                                                                                                                                POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                   POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                       LUMENAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                      POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LUMENAL (POTENTIAL)
                                                                                                                           /FTId=VAR_006463
                                                                                                                                                                                                    /FTId=VAR_007958.
                                                                                                                                                                                                                                                                         /FTId=VAR_009214
                                                                                                                                                                                                                                                                                                            /FTId=VAR_006461.
                                                                                                                                                                                                                                                          ţ
                                                                                                                                                                                                                                                          I (IN FAD;
                                                      REDUCES PRODUCTION OF AMYLOID BETA P PROCESSING AND OF NICD IN NOTCH1
                                                                                                            REDUCES PRODUCTION OF AMYLOID
                                                                                                                                                                                                                                                                                                                             (IN FAD)
 (IN REF. 1).; (IN REF. 3)
                                                                                           PROCESSING.
                                                                                                                                                                                                                                                                                           (IN EOAD).
                                                                                                                                                                                                                                                                                                                                                (IN SHORT ISOFORM)
                                                                                                                                                                                                                                                                                                                                                                                                                                     (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          There are no restrictions on ong as its content is in no
                                                                                                                                               ITALIAN
                                                                                                                                                                                                                                                      VOLGA GERMAN PATIENTS).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Usage
                                                                                                                                                                                                                    SPANISH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             γģ
                                                                                                                                             PATIENTS).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               and for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL outstation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ø
                                                                                                                                                                                                                    PATIENTS)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                collaboration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               commercia:
                                                                                                            BETA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ΑĐ
```

```
١
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ър
  MEDLINE-9723465; PubMed-9070286;

X MEDLINE-9723465; PubMed-9070286;

A Tsujimura A., Yasojima K., Hashimoto-Gotoh T.;

A Tsujimura A., Yasojima K., Hashimoto-Gotohas and their

C C Cascaling A., Hashimoto-Gotohas and their

A Tsujimura A., Yasojima K., Hashimoto-Gotohas and their

A Tsujimura A., Hashimoto-Gotohas and their

C C Cascaling A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOFT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PSN2_XENLA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PSN2_XENLA
012977;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CONFLICT
  -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE
                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa; (
Amphibia; Batrachia;
                                                                                                                                                                                                                                                                                                                                                                                                                                               Presenilin
                                                                                                                                                                                                                                                                                                                                                                                                                               PS-BETA.
                                                                                                                                                                                                                                                                                                                                                                                                         Xenopus laevis (African clawed frog)
                                                                                                                                                                                                                                                                                                                                                                                                                                                               15-JUL-1999 (Rel. 38, Creat
15-JUL-1999 (Rel. 38, Last
15-JUL-1999 (Rel. 38, Last
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           w
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LLLLAIFKKALPALPISITEGLVEYFATDYLVQPFMDQLAFHQFYI 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCLT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DPSSQGAL - - QLPYDPE - MEEDSYDSFGE - - - PSYPEVFEPPLTGYPG - -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LGEVFKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKYL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ESPTPRSCQEGRQGPEDGENTAQWRSQENEEDGEEDPDRYVCSGVP-----GRPPG----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRR-SLGHPEPLSNGRPQGNSRQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DPEAORRVSKNSKYNAESTERESODTVAENDDGGFSEEWEAORDSHLGPHRSTPESRAAV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LGEVLKTYNVAMDYPTLLLTVWNFGAVGMVCIHWKGPLVLQQAYLIMISALMALVFIKYL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 305;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ---LEEELTLKYGAKHVIMLFVPVTLCMIVVVATIKSVRFYTEKNGQLIYTPFTED
                                                                                                                                                                                                                                                                                                                                                                                                                                                 beta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           448 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  358
432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                               Xenopus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EEEEERGVKLGLGDFIFYSVLVGKAAATGSGDWNTTLACFVAILIGLCLT
  STAGE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  358
448
                                                                                                                                                                                                                                                                                                                                                                                         Chordata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           50140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61.1%;
65.5%;
                                                                                                                                                                                                                                                                                                                                                                     Anura; Mesobatrachia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Last annotation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Created)
  ABUNDANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 39;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pred. No. 1.7e
9; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score
                                                                                                                                                                                                                                                                                                                                                                   Craniata; Vertebrata; Euteleostomi;
esobatrachia; Pipoidea; Pipidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              R -> SQG (IN REF. 3).
NLVRPFMDTLASHQLYI -> RKHSRFIQMN (IN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A927EEC623468116 CRC64;
  H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1461;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   on update)
  EARLY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AΑ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .7e-89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 1;
STAGES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ,08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length
  ဝှု
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
  OOGENESIS
                                                                                                similarity)
                                                                                                                                                        APOPTOTIC
                                                                                                                                                                                                                their
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 42;
                                                            IN TESTIS
                                        SKELETAL
                                                                            A LESSER
  AFTER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
```

```
PSN2_MJ
ID PS
ID PS
AC P7
DT 15
                                                                             Š
                                                                                               В
                                                                                                             Ş
                                                                                                                               밁
                                                                                                                                            Ş
                                                                                                                                                                В
                                                                                                                                                                            δ
                                                                                                                                                                                               밁
                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                           Q
                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                             Q
                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                Matches
PSN2_MICMU
P79801;
15-JUL-1999
15-JUL-1999
                                                                                                                                                                                                                                                                                                                                                                       TRANSMEM
TRANSMEM
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                 TRANSMEM TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                 TRANSMEM TRANSMEM
                                  MICMU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        use by non-profit institutions as long modified and this statement is not removed. entitles requires a license agreement (see or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           This
                                                                                                                                                                                                                                                                                                                                                                                                                                 TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                         TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                         TRANSMEM (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRINTS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pfam; PF01080;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEROPS; A22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL; D84428; BAA19571.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          InterPro;
                                                                                 417
                                                                                                 339
                                                                                                                                                298
                                                                                                                                                                247
                                                                                                                                                                                 238
                                                                                                                                                                                                 187
                                                                                                                                                                                                                178
                                                                                                                                                                                                                                 127
                                                                                                                                                                                                                                                 118
                                                                                                                                                                                                                                                                                                                                                                                                                                                 RANSMEM
                                                                  399
                                                                                                                358
                                                                                                                                  307
                                          φ
                                                                                                                                                                                                                                                                 70
                                                                                                                                                                                                                                                                                 58
                                                                                                                                                                                                                                                                                                21
                                                                                                                                                                                                                                                                                                                N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WHICH IT IS SIMILARITY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         European Bioinformatics Institute.
                                                                                                                                                                                                                                                                                               SESPPLPSYQDGVQASEGLETSY------HRERQPDSTQNN----EDVPNGRTSGADAY
                                                                 GLCLTLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI 467
                                                                                                        IKYLPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVN
                                                                                                                                                                                                         SFIYLGEVFKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMALVF
                                                                                                                                                                                                                                       FTEDTETVGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLEFFF
                                                                                                                                                                                                                                                               NSETTV---ENEEEELTLKYGARHVIMLFVPVTLCMVVVVATIKSVSFYTEKDGQLIYTP
                                                                                                                                                                                                                                                                                                               TELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQG----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SWISS-PROT entry is copyright. It is produced through a collaboration the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                MAEGDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPES
                                                                                                                                                                                               TYIYLSEVFKTYNIAMDYPTLFMVIWNFGAVGMICIHWKGPLQLQQAYLIMISALMALVF
                                                                                                                                                                                                                                FSEDTTSVGERLLNSVLNTLIMISVILVMTIFLVLLYKYRCYKFIHGWLILSSLMLLFMF
                                                                                                                                                                                                                                                                        NSRQVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTP
                                                                                                 AAETRIQTQSNLSSEDPDEERG
                                                                                                                                MAD-SATADGRMNQQVQHIDRNTPEGANSTV-------
                                                                                                                                                                IKYLPEWSAWVILGAISVYDLLAVLCPKGPLRMLVETAQERNEPIFPALIYSSAMMWTVG
                                                                                                                                                                                                                                                                                                                                301;
                                                                                                                                                                                                                                                                                                                                                                                                                                                       PR01072; Pkasa...
hrane; Glycoprotein.
                                                                                                                                                                                                                                                                                                                                       Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IPR001108; Presenilin
                                                                                                                                                                                                                                                                                                                                                                 142
170
204
227
253
253
291
363
387
415
(Rel.
                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Presenilin;
                         STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NEARLY CONSTANT.
BELONGS TO THE PRESENILIN FAMILY.
                                                                                                                                                                                                                                                                                                                                                             162
190
224
227
247
273
311
383
410
435
435
50274
38,
                                                                                                                                                                                                                                                                                                                                      61.1%;
        Created)
 Last
                                                                                                                                                                                                                                                                                                                                                                 ¥.
 sequence
                                                                                                                                                                                                                                                                                                                                48;
                                                                                                 VKLGLGDFIFYSVLVGKAAATASGDWNTTLACFVAILI
                                                                                                                                                                                                                                                                                                                                                                                                        POTENTIAL.
POTENTIAL.
POTENTIAL.
POTENTIAL.
                                                                                                                                                                                                                                                                                                                                      Score 1460.5;
Pred. No. 1.8
                                                                                                                                                                                                                                                                                                                                                                                       POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                        N-LINKED
                                                                                                                                                                                                                                                                                                                                                                                POTENTIAL.
                         PRT;
                                                                                                                                                                                                                                                                                                                                                               2C2C105F5C723F2B
                                                                                                                                                                                                                                                                                                                                Mismatches
 update)
                         445
                                                                                                                                                                                                                                                                                                                                                                        (GLCNAC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ormatics and the EMBL outs
There are no restrictions
ong as its content is in
                                                                                                                                                                                                                                                                                                                               5; DB 1;
..8e-89;
hes 75;
                         ζ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Usage
                                                                                                                                                                                                                                                                                                                                               <u>,</u>
                                                                                                                                                                                                                                                                                                                                                                CRC64;
                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                               Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       bу
                                                                                                                                                                                                                                                                                                                                                                        (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         and
                                                                                                                                                                                                                                                                                                                                               449;
                                                                                                                                                                                                                                                                                                                               47;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         for
                                                                                                                                Ė
                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                416
                                                                                                                                                                                                                                                               126
                                                                                                                                                                                                                                                                                117
                                                                                                                                                                                                                                                                                                69
                                                                                                                                                                                                                                                                                                               57
                                                                                                 398
                                                                                                                                338
                                                                                                                                                357
                                                                                                                                                                306
                                                                                                                                                                                              246
                                                                                                                                                                                                                237
                                                                                                                                                                                                                                186
                                                                                                                                                                                                                                               177
                                                                                                                                                                                297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  on
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0n
                                                                                                                                                                                                                                                                                                                               7;
        Š
                        Вb
                                       Ş
                                                                                                                               Query Match
Best Local S
Matches 302
                                                                                        NON_TER
SEQUENCE
                                                                                                      TRANSMEM
TRANSMEM
                                                                                                                                              DOMAIN
TRANSMEM
                                                                                                                                                                                                                       CHAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                        This
                                                                                                                                                                                                                                       Transmembrane; CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               15-JUN-2002 (Rel. 41, Last annotation Presentlin 2 (PS-2) (Fragment). PSEN2 OR PSNL2 OR PS2.
                                                                                                                        DOMAIN
                                                                                                                               TRANSMEM
                                                                                                                                                                TRANSMEM
                                                                                                                                                                       DOMAIN
                                                                                                                                                                                TRANSMEM
                                                                                                                                                                                        DOMAIN
                                                                                                                                                                                               TRANSMEM
                                                                                                                                                                                                       DOMAIN
                                                                                                                                                                                                                TRANSMEM
                                                                                                                                                                                                                                                        PRINTS;
                                                                                                                                                                                                                                                               Pfam; PF01080; Presenilin;
                                                                                                                                                                                                                                                                               MEROPS; A22.
                                                                                                                                                                                                                                                                                        EMBL; Y10140;
                                                                                                                                                                                                                                                                                                                                               between
                                                                                                                                                                                                                                                                                                                                                                                                <del>-</del>
                                                                                                                                                                                                                                                                                                                                                                                                               <del>-</del>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Calenda A., Mestre-Frances
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TISSUE-Brain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Microcebus.
NCBI_TaxID=30608;
                                                                                                                                        DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=99167105; PubMed=10069575;
                                                                                                                                                                                                                                                                        InterPro;
        62
                       24
                                        w
VVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTED
                                                       al Similarity
302; Conser
                                                                                                                                                                                                                                                        PR01072;
                                                                                                                                                                                                                                                                       IPR001108; Presenilin.
                                                                                        445
                                                                                                                                               88
109
139
160
167
188
201
222
                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        N.A.
                                                                                                                                                                                                                                                                                       CAA71228.1;
                                                                                        AA;
                                                                                                                                                                                                                                             Phosphorylation;
                                                                                                                                                                                                                                                        PRESENILIN
                                                                                                        445
108
138
138
159
166
167
200
221
222
223
224
44
249
409
                                                                                        49475
                                                                60.6%;
65.2%;
                                                                                        MW;
                                                        41;
                                                                Score
Pred.
                                                                                                                                                                                                               POTENTIAL
                                                                                                                                POTENTIAL
                                                                                                                                               POTENTIAL
                                                                                                                                                                POTENTIAL
                                                                                                                                                                                POTENTIAL
                                                                                                                                                                                                POTENTIAL
                                                                                                        POTENT IAL
                                                                                                                                        LUMENAL
                                                                                                                                                                       LUMENAL
```

```
"Cloning of the presentlin 2 cDNA and its distribution in the primate, Microcebus murinus: coexpression with betaAPP proteins.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Microcebus murinus (Lesser mouse lemur).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Strepsirhini; Cheirogaleidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               entities requires a license agreement (Some send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               the European Bioinformatics Institute. The use by non-profit institutions as long modified and this statement is not removed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Neurobiol. Dis. 5:323-333(1998).
-!- FUNCTION: MAY PLAY A ROLE IN INTRACELLULAR SIGNALING AND GE EXPRESSION OR IN LINKING CHROMATIN TO THE NUCLEAR MEMBRANE. FUNCTION IN THE CYTOPLASMIC PARTITIONING OF PROTEINS (BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SIMILARITY).
SUBUNIT: PREDOMINANTLY HETERODIMER OF A N-TERMINAL (NTF) AND C-TERMINAL (CTF) ENDOPROTEOLYTICAL FRAGMENT (BY SIMILARITY).
SUBCELLULAR LOCATION: INTEGRAL MEMBRANE PROTEIN. GOLGI AND ENDOPLASMIC RETICULUM (BY SIMILARITY).
PUN: PHOSPHORYLATED ON SERINE RESIDUES (BY SIMILARITY).
SIMILARITY: BELONGS TO THE PRESENILIN FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SWISS-PROT entry is copyright. It is produced through a collaboration sen the Swiss Institute of Bioinformatics and the EMBL outstation - Buropean Bioinformatics Institute. There are no restrictions on its by non-profit institutions as long as its content is in no way
                           ELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRR-SLGHPEPLSNGRPQGNSRQ
ESPSPRSCQEGGQGPEDGDSTAQWRIQDSEEDGEEDPDRYVSSGVP-----GRPPG----
                                                                                                                                                                                                                                                                  CYTOPLASMIC POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                       CYTOPLASMIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CYTOPLASMIC (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          on; Endoplasmic reticulum; PRESENILIN 2 NTF SUBUNIT PRESENILIN 2 CTF SUBUNIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Czech C.,
                                                                                                                                                                                           0A01A7646659E052 CRC64;
                                                                                           Mismatches
                                                                                                                    1449;
No. 1
                                                                                                                                                                                                                                                                                                                                       (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                     (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (See http://www.isb-sib.ch/announce/
                                                                                                                       1e-88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pradier L.,
                                                                                                                                                                                                                                                                                                                                                                                       (POTENTIAL).
                                                                                                                                                                                                                                                                                       (POTENTIAL)
                                                                                                                                           DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Usage
                                                                                             78;
                                                                                                                                         Length
                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Petter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     brain
                                                                                           42;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Α.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Tau
                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MAY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   of
                                             61
74
                                                                                           8
```

```
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÔ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 γ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          멂
Pfam; Pfulve;
PRINTS; PR01072; PRESERVE;
Pransmembrane; Phosphorylation;
PR
                                                                                                                                                                                                                                            "Molecular cloning of bovine presentilin 2 gene.";
Submitted (DEC-1997) to the EMBL/GenBank/DDBJ databases.
-!- FUNCTION: MAY PLAY A ROLE IN INTRACELLULAR SIGNALING AND GE
EXPRESSION OR IN LINKING CHROMATIN TO THE NUCLEAR MEMBRANE.
FUNCTION IN THE CYTOPLASMIC PARTITIONING OF PROTEINS (BY
                                                                                       entities requires a license agreement (S or send an email to license@isb-sib.ch).
                                                                                                                   This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Enthe European Bioinformatics Institute. There are no restruse by non-profit institutions as long as its content
                                                                                                                                                                                                                                                                                                                                                                                                 16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence up
16-OCT-2001 (Rel. 40, Last annotation
Presentin 2 (PS-2).
                                 InterPro; IPRUUILU8; riesei
Pfam; PF01080; Presenilin;
                                                        EMBL; AF038937; AAD39024.1;
MEROPS; A22.002; -.
                                                                                                             modified
                                                                                                                                                                                                                           ---
                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID=9913; [1]
                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidea
                                                                                                                                                                                                                                                                                                                                                                                                                                                        PSN2_
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BOVIN
                                                                                                                                                                                                                                                                                                 Sahara N., Shirasawa T., Mori H.;
                                                                                                                                                                                                                                                                                                             TISSUE=Brain;
                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                  Bos taurus (Bovine).
                                                                                                                                                                                                                                                                                                                                                                                             PSEN2
                                                                                                                                                                                                                                                                                                                                                                                                                                              Q9ХТ96;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          75
                                                                                                                                                                      ENDOPLASMIC RETICULUM (BY SIMILARITY).
PTM: PHOSPHORYLATED ON SERINE RESIDUES (BY SIMILARITY).
SIMILARITY: BELONGS TO THE PRESENILIN FAMILY.
                                                                                                                                                                                           SIMILARITY).

SUBURIT: PREDOMINANTLY HETERODIMER OF A N-TERMINAL (NTF) AND C-TERMINAL (CTF) ENDOPROTEOLYTICAL FRAGMENT (BY SIMILARITY).

SUBCELLULAR LOCATION: INTEGRAL MEMBRANE PROTEIN. GOLGI AND ENDOPLASMIC RETICULUM (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TETYGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLFFFSFIY
                                                                                                                                                                                                                                                                                                                                                                                                                                                        BOVIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LLLLAVFKKALPALPISITFGLVFYFSTDNLVRPFMDTLAYHQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAAV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LGEVFKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKYL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DPSSQGAL--QLPYDPE-MEEDSYDSLGE---PSYPEVFEAPLPGYPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LGEVLKTYNVAMDYPTLVLTVWNFGAVGMVCIHWKGPLMLQQAYLIAISALMALVFIKYL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TPSVSQRLLNSVLNTLIMISVIVVMTIFLVVLYKYRCYKFIHGWLIMSSLMLLFLFTYIY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -----PEEELTLKYGAKHVIMLSVPVTLCMIVVVATIKSVRFYTEKNGQLIYTPFTED
                                                                                                            non-profit institutions as long and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                     Bovinae;
                                               IPR001108; Presenilin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                        STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EEEEERGVKLGLGDFIFYSVLVGKAAATGSGDWNTTLACFVAILIGLCLT
                                                                                                                                                                                                                                                                                                                                                     Bos.
      presentin 2 Ni
                                                                                                                                                                                                                                                                                                                                                                                                               on update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                        449
                                                                                                 noved. Usage by and for commercial
(See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                        A
       NTF SUBUNIT
                                                                                                                                                                                                                                                                                                                                                               Pecora; Bovoidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              464
       (BY
                                                                                                                               restrictions on
     Golgi stack.
(BY SIMILARITY).
                                                                                                            ent is i
                                                                                                                                          EMBL
                                                                                                                                                     a
                                                                                                                                                     collaboration
                                                                                                                                                                                                                                                                    GENE
                                                                                                                                            outstation
                                                                                                                      in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          127
                                                                                                                     no
                                                                                                                     way
                                                                                                                                                                                                                                                                                                                                                                                                                                            Ωy
       β
                                                                                                                                                                                                                                                         망
                                                                                                                                                                                                                                                                            20
                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                                                                                           Q
                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q
                                                                                                                                                                                                                                                                                                                                          日
                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PSN2_MOUSE
                                                                                                                                                                                   RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local S
Matches 299
       Vito
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TRANSMEM
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DOMAIN
TRANSMEM
                 TISSUE=Liver;
MEDLINE=97094860;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DOMAIN
                                                        NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TRANSMEM
                                      EQUENCE
                                                                                                                                                                                                                   405
                                                                                                                                                                                                                                     423
                                                                                                                                                                                                                                                         352
                                                                                                                                                                                                                                                                              363
                                                                                                                                                                                                                                                                                                  310
                                                                                                                                                                                                                                                                                                                     303
                                                                                                                                                                                                                                                                                                                                           250
                                                                                                                                                                                                                                                                                                                                                             243
                                                                                                                                                                                                                                                                                                                                                                                  190
                                                                                                                                                                                                                                                                                                                                                                                                      183
                                                                                                                                                                                                                                                                                                                                                                                                                          130
                                                                                                                                                                                                                                                                                                                                                                                                                                             123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ω
       ₽.,
                                                                                                                                                                                                                                                          EL----
        Wolozin
                                      FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        225
246
251
251
272
390
415
449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   299
110
110
140
161
168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A,
```

```
PSN2_MOUSE STANDARD; PRT; 448 AA. 061144; P97935; P97934; O54977; 01-NOV-1997 (Rel. 35, Created)
15-JUL-1998 (Rel. 36, Last sequence update)
16-OCT 2001 (Rel. 40, Last annotation update)
Presenlin 2 (PS-2) (ALG-3) (Alzhelmer disease
PSEN2 OR PSNL2 OR ALG3 OR AD4H OR PS-2.
                                                                                             Eukaryota; Metazoa;
Mammalia; Eutheria;
                                                                                                                            Mus musculus (Mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LLLAVFKKALPALPISITFGLIFYFSTDNLVRPFMDTLASHQLYI
                                                                                                                                                                                                                                                                                                                                       LLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ETVGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLEFFFSFIYL 182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTEDT 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ESPTPRSCQDGRQGLEDGESAAQWRSQESEEDHEEEDPDRYVCSGVP---GRPPG----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSRQV
                                                                                                                                                                                                                                                                                                                                                                                                        ELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCLTL
                                                                                                                                                                                                                                                                                                                                                                                                                                                       PSSQGAL - - QLPYDPE - MEEDSYDSFGE - - - PSYPDVFEPPLPGYPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PEAORRVSKNSKYNAESTERESODTVAENDDGGFSEEWEAORDSHLGPHRSTPESRAAVO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GEVLKTYNVAMDYPTLFLTVWNFGAVGMVCIHWKGPLVLQQAYLIMISALMALVFIKYLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GEVEKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKYLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PSVGQRLLNSVLNTLIMISVIVTMTIFLVVLYKYRCYKFIHGWLIMSSLMLLFLFTYIYL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -----LEEELTLKYGAKHVIMLFVPVTLCMIVVVATIKSVRFYTEKNGQLIYTPFSEDT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                         EEEEERGVKLGLGDFIFYSVLVGKAAAMGSGDWNTTLACFVAILIGLCLTL
PubMed=8940094;
3., Ganjei J.K.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        435
50301
                                                                                             Chordata;
Rodentia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     449
109
139
160
167
1167
1222
2324
2324
2371
2389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         60.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ₹.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score
Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        POTENTIAL. 51350D05A02B2A7D CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CYTOPLASMIC (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  POTENTIAL.
CYTOPLASMIC (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CYTOPLASMIC (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRESENILIN 2 CTF SUBUNIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LUMENAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LUMENAL (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LUMENAL
                                                                                             Craniata; Ver
Sciurognathi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
 Iwasaki
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         No. 3.36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (POTENTIAL).
                                                                                                               Vertebrata; Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 1; Length
                                                                                                Muridae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SUBUNIT
                                                                                                                                                              4
                                                                                                                                                              homolog)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                            449
;
[13]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          39;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ė
                                                                                                                                                                                                                                                                                                                                                                                           404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               129
                                                                                                                                                                                                                                                                                                                                                                                                                                                       351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          7;
```

ζ,

Lacana

Ó

Adamio

```
Query Match
Best Local S
Matches 299
                                           CONFLICT
CONFLICT
SEQUENCE
                                                                             TRANSMEM
TRANSMEM
CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "Interfering with apoptosis: Ca(2+)-binding Alzheimer's disease gene ALG-3."; Science 271:521-525(1996).
                                                                                                                                                                                                                TRANSMEM
DOMAIN
TRANSMEM
                                                                                                                                     TRANSMEM
DOMAIN
                                                                                                                                                                     DOMAIN
TRANSMEM
                                                                                                                                                                                           DOMAIN
TRANSMEM
                                                                                                                                                                                                                                                   CHAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                        This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bloinformatics and the EMBL outstation the European Bloinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                         CHAIN
                                                                                                                                                                                                                                                                                                                                                    EMBL; U57324; AAC52937.1; -. EMBL; U57325; AAC53311.1; -. EMBL; AF038935; AAB92660.1; -. EMBL; U49111; AAC52935.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                <del>:</del>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     +
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sahara N., Mori H., Shirasawa T.;
"Molecular cloning of mouse presenilin 2 gene.
Submitted (DEC-1997) to the EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      apoptosis.
J. Biol. C
                                                                                                                                                                                                                                                                                   Transmembrane;
                                                                                                                                                                                                                                                                                               PRINTS;
                                                                                                                                                                                                                                                                                                          Pfam; PF01080;
                                                                                                                                                                                                                                                                                                                               MEROPS; A22.002; -.
MGD; MGI:109284; Psen2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TISSUE-Liver
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STRAIN-NIH Swiss;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                               DOMAIN
                                                                                                                          TRANSMEM
                                                                                                                                                             DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=96152375; PubMed=8560270,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               *Requirement of the apoptosis. Opposing
                                                                                                                                                                                                                                                                                                                    InterPro; IPR001108; Presenilin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FUNCTION IN THE CYTOPLASMIC PARTITIONING OF PROTEINS (B) SIMILARITY).

SUBUNIT: PREDOMINANTLY HETERODIMER OF A N-TERMINAL (NTF: SUBURITAL (CTF) ENDOPROTEOLYTICAL FRACKENT (BY SIMILAR: SUBCELLULAR LOCATION: INTEGRAL MEMBRANE PROTEIN. GOLGI / ENDOPLASMIC RETICULUM (BY SIMILARITY).

TISSUE SPECIFICITY: UBIQUITOUSLY EXPRESSED, MOSTLY IN THE PROSPHORYLATED ON SERINE RESIDUES (BY SIMILARITY).

SIMILARITY: BELONGS TO THE PRESENILIN FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FUNCTION: MAY PLAY A ROLE IN INTRACELLULAR SIGNALING AND GENE EXPRESSION OR IN LINKING CHROMATIN TO THE NUCLEAR MEMBRANE. MJ FUNCTION IN THE CYTOPLASMIC PARTITIONING OF PROTEINS (BY
            Similarity
                                                                                                                                                                                                                                                                                               PR01072;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              OF 340-448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Chem.
                                            88
109
139
160
167
1188
201
222
224
225
224
227
227
238
418
817
226
324
   Conservative
                                                                                                                                                                                                                                                                                                         Presenilin;
                                                                                                                                                                                                                                                                                 Phosphorylation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    f the familial Alzheimer's ssing effect of ALG-3."; 271:31025-31028(1996).
                                             ₹
                                          PRESENILIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FROM
           60.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              N.A.
                                              ₹
  3;
                                       POTENTIAL.

CYTOPIASMIC (POTENTIAL).

POTENTIAL.

POTENTIAL.

R -> H (IN REF. 2).

A -> V (IN REF. 2).

MISSING (IN REF. 2).

MISSING (IN REF. 2).
           Score 1439;
Pred. No. 4
                                                                                                                                                                                                                           POTENTIAL.
                                                                                                                                                                                                POTENTIAL.
CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                           n); Endoplasmic reticulum; Golgi stack PRESENILIN 2 NTF SUBUNIT (BY SIMILARI' PRESENILIN 2 CTF SUBUNIT.
                                                                                                                                                       POTENTIAL.
CYTOPLASMIC (POTENTIAL)
                                                                                                                                                                                                                                               CYTOPLASMIC (POTENTIAL).
                                                                                                                                                POTENTIAL
                                                                                                                                                                                 LUMENAL
                                                                                                                                                                                             POTENTIAL
                                                                                                                                     LUMENAL
  Mismatches
                                                                                                                                                                                 (POTENTIAL)
                                                                                                                                                                                                                           (POTENTIAL).
                                                                                                                                    (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           disease
            8e-88;
                       DΒ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           N-TERMINAL (NTF) AND
MENT (BY SIMILARITY).
PROTEIN. GOLGI AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   databases
                                           CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gene
                      Length 448;
 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ALG-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PS2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       THE
                                                                                                                                                                                                                                                                        SIMILARITY)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            for
  42;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 collaboration
Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MAY
  8
```

```
ALD DEFINITION OF THE PROPERTY OF THE PROPERTY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT
PSN2_RA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÕ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PSN2_RAT STANDARD; PSN2_RAT (088777; 035546; 008947; 15-JUL-1999 (Rel. 38, Last sequing for the control of the 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                r 12
_RAT
                                                                                                                   SEQUENCE FROM N.A.

STRAIN-Wistar; TISSUE-Brain;

STRAIN-Wistar; TISSUE-Brain;

MEDLINE-98207716; PubMed-9545577;

Tanahashi H., Tabira T.;

Tanahashi H., Tabira T.;

"Cloning of the cDNA encoding rat presenting-2.";

"Cloning of the cDNA encoding rat presenting-2.";

Biochim. Biophys. Acta 1396:259-262(1998).

-i- FUNCTION: MAY PLAY A ROLE IN INTERCELLULAR SIGNALING
EXPRESSION OR IN LINKING CHROMATIN TO THE NUCLEAR MEM
ENCONTROL TO THE CONTROL OF THE NUCLEAR MEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
STRAIN-Wistar; TISSUE-Brain;
Frentzel S., Abdel A.S., Lue
Submitted (JUL-1996) to the
                                     -
                                                                                                                                                                                                                                                                                                                                                                                                                         Gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Takahashi H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STRAIN=Wistar; TISSUE=Brain;
MEDLINE=97473536; PubMed=9332390;
                                                                                                                                                                                                                                                                                                                                                                                                                                                              presenilin-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Imahori K., Takashima
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ω
FUNCTION IN THE CYTOPLASMIC PARTITI
SIMILARITY).
SUBULIARITY PREDOMINANTLY HETERODIMER
C-TERMINAL (CTF) ENDOPROTEOLYTICAL
                                                                                                                                                                                                                                                                                                                                                                                                                         197:383-387(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI
||+||:|||||||||||:||:|| ||:||| || || ||
LLLLAVFKKALPALPISITFGLIFYFSTDNLVRPFMDTLASHQLYI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QELSSSILAGEDPEERGVKLGLGDPIFYSVLVGKASATASGDWNTTIACFVAILIGLCLT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PEWTAWLILAVISVYDLVAVLCPKGPLRWLVETAQERNETLFPALIYSSTWYWLVNMAEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LGEVFKTYNVAVDYITVALLIMNLGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKYL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTED :|||||||||||||||
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSL-GHPEPLSNGRPQGNSRQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EEL---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DPSSQGAL--QLPYDPE-MEEDSYDSFGE---PSYPEAFEAPLPGYPG---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAAV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -----LEEELTLKYGAKRVIMLFVPVTLCMIVVVATIKSVRFYTEKNGQLIYTPFTED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ESPTSRSCQEGRPGPEDGESTAQWRTQESEEDCEEDPDRYACSGAP----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LGEVLKTYNVAMDYPTLFLAVWNFGAVGMVCIHWKGPLALQQAYLIVISALMALVFIKYL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mercken M.,
akashima A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     expression
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Luebbert
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Nakazato
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  sequence update)
annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     sbbert H.;
EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Craniata; Vertebrata; Euteleostomi; Sciurognathi; Muridae; Murinae; Rat
                                                                                              PARTITIONING (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Υ.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   448
OF A N-TERMINAL (NTF) FRAGMENT (BY SIMILARI'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Noguchi K., Murayama
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         encoding
                                                                                                  of
G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         databases
   (BY SIMILARITY).
                                                                                                  PROTEINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -GRPSG----
                                                                                                                                                               AND
                                                                                                  (B)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          X
                                 AND
                                                                                                                                                                     GENE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Rattus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        74
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          247
```

```
Matches
                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                         TRANSMEM
TRANSMEM
CONFLICT
CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TRANSMEM
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                           TRANSMEM
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CHAIN
DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Transmembrane;
CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pfam;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 use by non-profit institutions as long modified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   This
                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRINTS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEROPS; A22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       entities requires a license agreement
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ÷
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro;
                        362
                                                308
                                                                        302
                                                                                                 248
                                                                                                                        242
                                                                                                                                                 188
                                                                                                                                                                        182
                                                                                                                                                                                                 128
                                                                                                                                                                                                                        122
                                                                                                                                                                                                                                               75
                                                                                                                                                                                                                                                                       62
                                                                                                                                                                                                                                                                                              24
                                                                                                                                                                                                                                                                                                                        ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     s SWISS-PROT entry is copyright. It is produced through a collaboration ween the Swiss Institute of Bioinformatics and the EMBL outstation - Buropean Bioinformatics Institute. There are no restrictions on its
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SUBCELLULAR LOCATION: INTEGRAL MEMBRANE PROTEIN. ENDOPLASMIC RETICULUM (BY SIMILARITY). PTM: PHOSPHORYLATED ON SERIME RESIDUES (BY SIMILARITY: BELONGS TO THE PRESENILIN FAMILY.
                                                                                                                                                                                                                                                                                                                      ELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSL-GHPEPLSNGRPQGNSRQ
           QELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCLT
                                                                                                            PEWTAMLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAEG
                                                                                                                                                              LGEVFKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKYL
                                                                                                                                                                                             TETVGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLFFFSFIY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  D83700; BAAZZOJJ...
AB004454; BAAZO406.1;
vs. A22.002; -. Presen
                                                DPSSQGAL - - QLPYDPE-MEEDSYDSFGE- - - PSYPEAFEAPQPGYPGEE:
                                                                       DPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAAV
                                                                                               PEWSAWVILGAISVYDLVAVLCPKGPLRMLVETAQERNEPIFPALIYSSAMVWTVGMAKL
                                                                                                                                                LGEVFKTYNVAMDYPTLFLAVWNFGAVGMVCIHWKGPLVLQQAYLIVISALMALVFIKYL
                                                                                                                                                                                                                                                                      VVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTED
                                                                                                                                                                                                                                                                                               ESPTSRSCQDSRPGPEDGENTAQWRSQENEDDCEEDPDHYACSGVP-----GRPSG----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     X99267; CAA67663.1; -. D83700; BAA22832.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PF01080; Presenilin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          an
                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PR01072;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IPR001108; Presenilin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         email to license@isb-sib.ch).
                                                                                                                                                                                                                                             -LEEELTLKYGAKHVIMLFVPVTLCMIVVVATIKSVRFYTEKNGQLIYTPFTED
                                                                                                                                                                                                                                                                                                                                                                                                                        189
203
220
230
230
247
247
253
270
387
414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               88
107
142
160
167
                                                                                                                                                                                                                                                                                                                                               Conservative
PEEEEERGVKLGLGDFIFYSVLVGKAAATGNGDWSTTLACFIAILIGLCLT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Phosphorylation;
1 297 PR
                                                                                                                                                                                                                                                                                                                                                                                               A,
                                                                                                                                                                                                                                                                                                                                                                                          448

87

106

1141

1159

1166

1188

202

219

229

229

2246

406

406

434

50051
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRESENILIN
                                                                                                                                                                                                                                                                                                                                                          60.2%;
63.9%;
                                                                                                                                                                                                                                                                                                                                                                                               Ψ¥;
                                                                                                                                                                                                                                                                                                                                             44;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   POTENTIAL.
CYTOPLASMIC (POTENTIAL).
POTENTIAL.
LUMENAL (POTENTIAL).
POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                         Score
Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             POTENTIAL.
CYTOPLASMIC
POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                        POTENTIAL.
S -> T (IN
KH -> ND (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                             CYTOPLASMIC POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRESENILIN 2 CTF SUBUNIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CYTOPLASMIC (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LUMENAL
                                                                                                                                                                                                                                                                                                                                                                                              299A7C416405046C
                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                           Y ND (IN
                                                                                                                                                                                                                                                                                                                                                          1439;
No. 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (POTENTIAL).
                                                                                                                                                                                                                                                                                                                                                                                                           (IN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                      REF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            There are no rest
                                                                                                                                                                                                                                                                                                                                                          DB 1;
.8e-88;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                           REF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (POTENTIAL)
                                                                                                                                                                                                                                                                                                                                                                                                    . 1).
3)
                                                                                                                                                                                                                                                                                                                                               82;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Usage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                               CRC64;
                                                                                                                                                                                                                                                                                                                                                                      Length
                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 γď
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GOLGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (BY
(BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (BY SIMILARITY).
(BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                       448;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 and
                                                                                                                                                                                                                                                                                                                                               42;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ĭ
                                                                                                                                                                                                                                                                                                                                             Gaps
                       421
                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                     6
                                                                                                                                                                                               187
                                                                                                                                                                                                                                               127
                                                                                                                                                                                                                                                                    121
402
                                                                       361
                                                                                               307
                                                                                                                        301
                                                                                                                                                                                                                                                                                              74
                                               351
                                                                                                                                             247
                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            no
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            way
                                                                                                                                                                                                                                                                                                                                             7;
```

ν̈́

ᄝ

- 유 - 원

```
ALD DEFINITION OF THE PROPERTY OF THE PROPERTY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        γ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Drosophila melanogaster (Fruit fly).
Eukaryota; Metazoa; Arthropoda; Mandibulata; Pancrustacea;
Insecta; Pterygota; Neoptera; Endopterygota; Diptera; Brach
Muscomorpha; Ephydroidea; Drosophilidae; Drosophila.
NCBI_TaxID=7227;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               002194; 002395; 076802; Q9V3L9; Q9V780; Q9V3S: 15-JUL-1999 (Rel. 38, Created) 15-JUL-1999 (Rel. 38, Last sequence update) 15-JUN-2002 (Rel. 41, Last annotation update) Presentlin homolog (DPS) (DMPS). PSN OR PS OR CG18803/CG5868.
                                                                                                                                                                                SEQUENCE FROM N.A. MEDLINE=99423881; Guo Y., Livne-Bar
                                                                                                                                                                                                                                          [6]
                                                                                                                                                                                                                                                                                                                                                                                                          Nature
[5]
                                                                                                                                                                                                                                                                                                                                                                                                                                            "Neurogenic phenotypes and Presenilin mutants.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Notch
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Boulianne G.L., Livne-Bar I., Rogaev E., St George-Hyslop P. "Cloning and characterization"
                 Amanatides P.G.,
                                                STRAIN=Berkeley;
MEDLINE=20196006;
                                                                                                                                              affects notch
                                                                                                                                                                                                                                                                               alternatively
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A. (LONG A MEDLINE=99221488; PubMed=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Isolation and characterization NeuroReport 8:665-668(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A., AND DEVELOPMENTAL STRAIN-Canton-S; TISSUE-Embryo, and He
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NeuroReport
[2]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PSN_DROME
                                    Adams
                                                                                                                                                                                                                                                      Hendriks L., Van Broeckhoven C., Gonzalez-Duarte R.;
"Identification of a Drosophila presenilin homologue:
alternatively spliced forms.";
Neurogenet. 12:41-54(1998).
                                                                                                                                                                                                                                                                                                                                 Marfany G., Del-Favero
                                                                                                                                                                                                                                                                                                                                                  MEDLINE=98331525; PubMed=9666900;
                                                                                                                                                                                                                                                                                                                                                                         STRAIN-Canton-S
                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ye Y., Lukinova N.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Characterization of Drosophila
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ye Y.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE-99279250;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A. (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Hong
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE=97260623;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE=97285868; PubMed=9141085;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   rissue=Embryo;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.,
                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                               uo Y., Livne-Bar I., Zhou L., Boul
Drosophila presenilin is required
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       M.D.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        during development.";
Dev. 79:199-211(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Fortini M.E.
                                                                                                                                                                                                                                                                                                                                                                                                                           398:525-529(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .-S., Koo
                                                                                                                                                                                  Livne-Bar I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             002395;
             .9600b; running, Celniker S.E., H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8:1025-1029(1997).
                                                                                                             h subcellular localization 19:8435-8442(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STANDARD; F
5; 076802; Q9V3L9;
Rel. 38, Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               E.H.;
                                                   PubMed=10731132;
                                                                                                                                                                                                      PubMed=10493744;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PubMed=9106743;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PubMed=10349633;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (LONG AND SHORT ISOFORM
E, SUBCELLULAR LOCATION,
                                                                                        (LONG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ubMed=10206647;
Fortini M.E.;
                                                                                                                                                                                                                                                                                                                                                                                        ALTERNATIVE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ALTERNATIVE
                                                                                                                                                                                                                                                                                                                                    <u>د</u>
:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q9V3L9; Q9TY80; C
                                                                                          AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AND
               Holt
.E., L
                                                                                                                                                                                                                                                                                                                                   Valero
                                                                                                                                                                                                                                                                                                                                                                                                                                                                altered
                                                                                                                                                                                L., Boulianne G.L.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ., Humphreys P.H.;
                                                                                          SHORT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SHORT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            of the
                 Li
               R.A., EV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           of
                                                                                                                                                                                                                                                                                                                                                                                        SPLICING,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Presenilin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SPLICING,
                                                                                                                                                                                                                                                                                                                                    .
.
                                                                                          ISOFORMS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ISOFORMS), TO CATION, AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Drosophila
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Notch
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ISOFORMS).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Head
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Drosophila
                                                                                                                                                                                                                                                                                                                                    De Jonghe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STAGE
                                Evans
                                                                                                                                              and
                                                                                                                                                                 neuronal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 AA.
Q9V3S1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            J.M.,
                 Hoskins
                                                                                                                                                                                                                                                                                                                                                                                                                                                              processing
                                                                                                                                                                                                                                                                                                                                                                                      AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AND DEVELOPMENTAL
                                                                                                                                              signaling
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              and
                                  C
i.A.,
ins R.A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (SHORT
                                                                                                                                                                                                                                                                                                                                                                                        DEVELOPMENTAL STAGE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TISSUE SPECIFICITY,
D ALTERNATIVE SPLICING.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        presenilin homolog
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Liang
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              its
                                                                                                                                                                                                                                                                                                                                    .
.
                                                                                                                                                                 differentiation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          presenilin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             096340;
                                  Gocayne
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ISOFORM)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              colocalization
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           448
                                                                                                                                                                                                                                                                                                                                    Woodrow
                                                                                                                                                                                                                                                                                                                                                                                                                                                                'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            467
               ayne J.
Galle
                                                                                                                                                                                                                                                                                                evidence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Brachycera;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Drosophila
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Lin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Hexapoda;
               .D.,
R.F.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                റ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STAGE
                                                                                                                                                                                                                                                                                                O.
                                                                                                                                                                   and
```

```
RA Ballew R.M. Basu A. M. H.J., Andrews-FrankOch C., Baldwin D.,
RA Beeson K.Y. Benos P.V., Berman B.P., Bhandari D., Boshakov S.,
RA Beeson K.Y. Benos P.V., Berman B.P., Bhandari D., Boshakov S.,
RA Borkova D., Botchan M.R., Bouck J., Brokstein P., Brottier P.,
RA Burtis K.C., Busam D.A., Butler H., Cadieu E., Center A., Chandra I.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,
RA Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,
RA Cherry J.M., Cawley S., Dahlke C., Cawley R.S., Fleischmann W.R
RA Goldek A., Gong F., Gorrell J.H., Gu Z., Geabart W.M., Glasser K.,
RA Harris N.L., Harvey D., Heiman T.J., Hernandez J.R., Houck J.,
RA Harris N.L., Harvey D., Heiman T.J., Hernandez J.R., Houck J.,
RA Harris N.L., Harvey D., Heiman T.J., Hernandez J.R., Houck J.,
RA Harris N.L., Harvey D., Kraft C., Kravitz S., Kulp D., Lai Z.,
RA Kimmel B.E., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z.,
RA Kimmel B.E., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z.,
RA Kimmel B.E., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z.,
RA Mount S.M., Murphy B., Murphy L., Muzny D.M., Nelson D.L.,
RA Merkulov G., Milshina N.V., Mobarry C., Morris J., Moshrefi A.,
RA Merkulov G., Milshina N.V., Mobarry C., Morris J., Moshrefi A.,
RA Merkulov G., Francis S., Pan S., Pollard J., Puri V., Reese M.G.,
RA Reinert K., Remington K., Sumpson M., Skupski M.P., Santhh T.,
RA Shue B.C., Siden-Klamos I., Simpson M., Skupski M.P., Smith T.,
RA Syler B.C., Siden-Klamos I., Simpson M., Skupski M.P., Smith T.,
RA Syler B.C., Siden K., Mohalley R., Shu S., Zhu X., 
                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL; U77934; AAB61139:1; -.
EMBL; U78084; AAB53369:1; -.
EMBL; AF084184; AAC33128.1; -.
EMBL; AF084184; AAC33128.1; -.
EMBL; AF017024; AAD01610.1; -.
EMBL; AF017025; AAD01611.1; -.
EMBL; AF017026; AAD01612.1; -.
EMBL; AF093402; AAD52707.1; -.
EMBL; AF093402; AAD52708.1; -.
EMBL; AE003591; AAD52708.1; -.
EMBL; AE003591; AAF51598.1; -.
                                                                                                                                                                                                                                                                 between the Swiss Institute of Bioinformat the European Bioinformatics Institute. The use by non-profit institutions as lower modified and this statement is not removed. entitles requires a license agreement (See or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                       This
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Brandon R.C., Rowan K.H., Doyle
                                                                                                                                                                                                                                                                                                                                                                                                                         SIMILARITY: BELONGS TO THE PRESENTLIN FAMILY.
                                                                                                                                                                                                                                                                                                                       SWISS-PROT entry is copyright. It is produced through een the Swiss Institute of Bioinformatics and the ENEUropean Bioinformatics Institute. There are no restriby non-profit institutions as long as its content
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   n G.G., Wortman J.R., Yandell M.D., Zhang Q., Chen L.X., on R.G., Rogers Y.-H.C., Blazej R.G., Champe M., Pfeiffer B.D., H., Doyle C., Baxter E.G., Helt G., Nelson C.R., Miklos G.L.G., J.F., Agbayani A., An H.-J., Andrews-Pfannkoch C., Baldwin D.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         R.A., Lewis s.
G.G., Wortman
                                                                                                                                                                                                          AAB61139:1; -.
AAB53369:1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Richards S., Ashburner M.,
                                                                                                                                                                                                                                                                                       (See http://www.isb-sib
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Henderson
                                                                                                                                                                                                                                                                                                                                             restrictions
                                                                                                                                                                                                                                                                                                                                                                                 þ
                                                                                                                                                                                                                                                                                                           for
                                                                                                                                                                                                                                                                                                                                                                   collaboration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 S.N.,
                                                                                                                                                                                                                                                                                   .ch/announce/
                                                                                                                                                                                                                                                                                                                                                                 outstation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ON IS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         H.O.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    K.A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              € 7
                                                                                                                                                                                                                                                                                                                             no
on
                                                                                                                                                                                                                                                                                                                           way
```

PSN_CAPEN_C PSN_CAPEN_C ID PSN_C AC P5216 DT 01-OC DT 15-JU DT 15-JU DE Prese GN SEL-1 OS Caenc OC Eukar

PSN_CAEEL STANDARD; PR P52166; Q20076; Q9199C7; 01-OCT-1996 (Rel. 34, Created) 15-JUN-2002 (Rel. 41, Last seque 15-JUN-2002 (Rel. 41, Last annot Presenilin sel-12. SEL-12 OR F35H12.3.

sequence u

update) on update)

ð

Caenorhabditis elegans. Eukaryota; Metazoa; Nemata Rhabditidae; Peloderinae;

Nematoda;

oda; Chromadorea; Caenorhabditis.

Rhabditida;

```
밁
                                                Š
                                                                 밁
                                                                                δõ
                                                                                                    밁
                                                                                                                   Ş
                                                                                                                                      밁
                                                                                                                                                     Š
                                                                                                                                                                       밁
                                                                                                                                                                                        õ
                                                                                                                                                                                                         밁
                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                          Ъ
                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local S
Matches 251
                                                                                                                                                                                                                                                                                                                                                TRANSMEM
TRANSMEM
TRANSMEM
CARBOHYD
CARBOHYD
CARBOHYD
CARBOHYD
VARSPLIC
CONFLICT
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                   TRANSMEM TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                    TRANSMEM TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pfam; PF01080; Presenilin; 1
PRINTS; PR01072; PRESENILIN.
Transmembrane; Glycoprotein;
TRANSMEM 107 127
                                                                                                                                                                                                                                                                                                                                                                                                                            TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        InterPro;
494
                420
                                436
                                                 365
                                                                  376
                                                                                   333
                                                                                                     316
                                                                                                                     294
                                                                                                                                      256
                                                                                                                                                      234
                                                                                                                                                                        196
                                                                                                                                                                                        174
                                                                                                                                                                                                         136
                                                                                                                                                                                                                         114
                                                                                                                                                                                                                                          76
                                                                                                                                                                                                                                                           57
                                                                                                                                                                                                                                                                            16
                                                                                                                                                                                                                                                                                             17
       LTLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI
                               W-LVNMAEGDPEAQRRVSKNSKYNAESTERESQDTVA-----
                                                                                                                                    LFFFSFIYLGEVEKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALM
                                                                                                                                                                                                                  SEDDANYGSQIGAAERLERPPRRQQQRNNYGSSNQDQPDAAILAVPNVVMREPCGSRPSR
                                                                                                                                                                                                                                                                                            SED-----NHLSNTVRSQNDNRERQEHNDRRSLGHPEPLS------NGRPQ-
LTLLLAIWRKALPALPISITFGLIFCFATSAVVKPFMEDLSAKQVFI
                                                                 DGSVLATEGMPLVTFKSNLRGNAEAAGFTQEWSANLSERVARRQIEVQSTQSGNAQRSNE
                                                                                    DG-----
                                                                                                    YALVNTVTPQQSQATASSSPSSSNSTTTTRATQNSLASPEAAAASGQRTGNSHPRQNQRD
                                                                                                                                                                                                         LYTPFHEQSPEPSVKFWSALANSLILMSVVVVVMTFLLIVLYKKRCYRIIHGWLILSSFML
                                                                                                                                                                        LFIFTYLYLEELLRAYNIPMDYPTALLIMWNFGVVGMMSIHWQGPLRLQQGYLIFVAALM
                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IPR001108; Presenilin.
                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                        155
183
217
213
243
266
304
482
129
339
339
                                                                                                                                                                                                                                                                                                                                            49.2%;
                                                                                                                                                                                                                                                                                                                                                 MW.
                                                                                                                                                                                                                                                                                                              73;
                                                                                                                                                                                                                                                                                                                                              N-LINKED (GLCNAC. . .) (POTE N-LINKED (GLCNAC. . .) (POTE N-LINKED (GLCNAC. . .) (POTE MISSING (IN SHORT ISOFORM).
GG -> RS (IN REF. 2).
GG -> RS (IN REF. 2).
                                                                                                                                                                                                                                                                                                             Score 1177.5;
Pred. No. 1.1e
73; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                        POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Alternative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      POTENTIAL.
                                                                                   GFSEEWEAQRDSHLGPH----RSTPESRAAVQEL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              splicing.
                                                                                                                                                                                                                                                                                                                              DB 1;
                                                                                                                                                                                                                                                                                                                                                                        .) (POTENTIAL).
.) (POTENTIAL).
                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                              Length
               467
                                                                                                                                                                                                                                                                                                              79;
                                                                                                                     ---END
                                                                                                                                                                                                                                                                                                             Gaps
                                                                  435
                                  493
                                                                                                                                                     293
                                                                                                     375
                                                                                                                     332
                                                                                                                                      315
                                                                                                                                                                        255
                                                                                                                                                                                        233
                                                                                                                                                                                                         195
                                                                                                                                                                                                                                                                                            56
```

```
SEQUENCE NZ;
STRAIN-Bristol NZ;
MEDLINE-20372200; PubM
                                      TRANSMEM
TRANSMEM
TRANSMEM
TRANSMEM
TRANSMEM
TRANSMEM
                                                                                                                                                                                                                                          EMBL;
                                                                                                                                                                                                                                                                        use by non-profit institutions as long as its content modified and this statement is not removed. Usage by an entitles requires a license arrow—
                                                                                                                                                                                                                               EMBL;
                                                                                                                                                                                                                                                                                                              This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its
                                                                                                                                                                                                                                                                                                                                                            Submitted (APR-2001) to the EMBL/GenBank/DDBJ databases.

- FUNCTION: MAY FACILITATE LIN-12 MEDIATED RECEPTION OF INTERCELULAR SIGNALS. IT MIGHT BE DIRECTLY INVOLVED IN LIN-12 MEDIATED RECEPTION, FUNCTIONING AS A CO-RECEPTOR OR AS A DOWNSTREAM EFFECTOR THAT IS ACTIVATED UPON LIN-12 ACTIVATION.

ALTERNATIVELY IT MAY BE INVOLVED IN A MORE GENERAL CELLULAR PROCESS SUCH AS RECEPTOR LOCALIZATION OR RECYCLING AND HENCE INFLUENCE LIN-12 ACTIVITY INDIRECTLY. Required cell-autonomously for correct neurite connectivity of the AIY cholinergic interneurones and their correct functioning in thermotaxis.

-I- TISSUE SPECIFICITY: Expressed in most neurons.

-I- SIMILARITY: BELONGS TO THE PRESENILIN FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Waterston R.;
Submitted (APR-2001)
-!- FUNCTION: MAY FAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A. STRAIN-Bristol N2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 [3]
SEQUENCE FROM N.A.,
SEQUENCE FROM N.A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Nature
[2]
       CONFLICT
                                                                                                             TRANSMEM
                                                                                                                                                            Pfam;
                                                                                                                                                                                                                     EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Submitted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STRAIN-Bristol N2;
MEDLINE-96032531; PubMed-7566091
                VARIANT
                            TRANSMEM
                                                                                                                        Transmembrane
                                                                                                                                     PRINTS;
                                                                                                                                                PRINTS;
                                                                                                                                                                      InterPro; IPR001686; Nema_presenilin.
InterPro; IPR001108; Presenilin.
                                                                                                                                                                                              WormPep; F35H12.3; CE24946.
                                                                                                                                                                                                         MEROPS; A22.UPW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REVISIONS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Nelson
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Presenilin is required in C. elegans."; Nature 406:306-309(2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Baumeister R.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Submitted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Levitan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REVISIONS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=6239;
{1]
                                                                                                                                                                                                                                                                   send
                                                                                                                                                                                                                   U35660; AAA85511.1; -. AF171064; AAD50991.1; U41540; AAK39230.1; -.
                                                                                                                                                            PF01080;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  J.,
                                                                                                                                               PR01072;
                                                                                                                                                                                                                                                                   an email to license@isb-sib.ch).
                                                                                                                                    PR01075;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    b
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gattung S.;
(DEC-1995) t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TO 84-85.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (JAN-1996)
                                                                                                                                                            Presenil
                                                                                                                                     PRESENTLNSEL
                                                                                                                                                PRESENILIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PubMed=10917532;
mer S., Lakowski
      122
122
151
184
184
210
233
271
405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FUNCTION,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ç
                                                                                                                                                            in;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VARIANT
POTENTIAL.
                                                                                                                                                          Η.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     proper morphology and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TISSUE
                                                                                                                                                                                                                                                                             (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Roehrig
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SPECIFICITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 y sel-12, a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            s.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      function of neurons
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Rudolph
                                                                                                                                                                                                                                                                                          and
                                                                                                                                                                                                                                                                                          for
                                                                                                                                                                                                                                                                                                     on
```

```
PSNH_ARACH
ID PSNH_AB
AC 064668
AC 064668
DT 15-JUL
DT 15-JUL
DT 16-OTI
DE Presen
GN AT1608
OS Arabid
OC Eukary
OC Sperma
OC eurosi
CN NCBL_T
RN [1]
RP SEQUEN
RX MEDLIN
RX MILTE
RA Theolo
RA White
RA Theolo
RA Hunter
RA Chung
RA Hunter
RA Gill J
RA Gill J
RA Lin X.
RA Hinter
RA Lin X.
RA Milits
RA Sakano
RA Sakano
RA Sakano
RA Sakano
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                        064668;
15-JUL-1999
15-JUL-1999
16-OCT-2001
          Theologis A., Ecker J.R., Palm C.J., Federspiel N.A., Kaul S.,
White O., Alonso J., Altafi H., Araujo R., Bowman C.L., Brooks S.Y.,
Buehler E., Chan A., Chao Q., Chen H., Cheuk R.F., Chin C.W.,
Chung M.K., Conn L., Conway A.B., Conway A.R., Creasy T.H., Dewar K.,
Chung P., Etgu P., Feldblyum T.V., Feng J.-D., Fong B., Fujii C.Y.,
Dunn P., Etgu P., Feldblyum T.V., Feng J.-D., Fong B., Fujii C.Y.,
Gill J.E., Goldsmith A.D., Haas B., Hansen N.F., Hughes B., Huizar L.,
Hunter J.L., Jenkins J., Johnson-Hopson C., Khan S., Khaykin E.,
Kim C.J., Koo H.L., Kremenetskaia I., Kurtz D.B., Kwan A., Lam B.,
Langin-Hooper S., Lee A., Lee J.M., Lenz C.A., Li J.H., Li Y.-P.,
Lin X., Liu S.X., Liu Z.A., Luros J.S., Maiti R., Marziali A.,
Militscher J., Miranda M., Nguyen M., Nierman W.C., Osborne B.I.,
Pai G., Peterson J., Pham P.K., Rizzo M., Rooney T., Rowley D.,
Sakano H., Salzberg S.L., Schwartz J.R., Shin P., Southwick A.M.,
                                                                                                                                                                                                                                                                                                                       ATIG08700 OR F22013.18.
Arabidopsis thaliana (Mouse-ear cress).
Eukaryota; Viridiplantae; Streptophyta; Embry
Spermatophyta; Magnollophyta; eudicotyledons;
eurosids II; Brassicales; Brassicaceae; Arabi
                                                                                                                                                                                                                                    STRAIN=cv. Columbia;
MEDLINE=21016719; PubMed=11130712;
                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                          Presenilin homo!
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PSNH_ARATH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             435 TQVS 438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local Similarity
mes 218; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DQLA 461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVW---LVNMA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QEVLKSFDVSPSALLVLFGLGNYGVLGMMCIHWKGPLRLQQFYLITMSALMALVFIKYLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GEVFKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKYLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QEDENVVEEAELKYGASHVIHLEVPVSLCMALVVETMNTITEYSQNNGRHLLXTPEVRET
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQ-LIYTPFTEDT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EEWEAQRDSHLGPHRSTPESRAAVQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ENTTDPREPTSSDSNTSTAFPGEASCSSETPKRPKVKRIPQKVQIESNTTASTTQNSGVR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EGDPEAQRRVSKNS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EWTVWFVLFVISVWDLVAVLTPKGPLRYLVETAQERNEPIFPALIYSSGVIYPYVLVTAV
     Tallon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          444
                                                                                                                                                                                                                                                                                                                                                                                                                       (Rel. 38, Created)
(Rel. 38, Last sequence update)
(Rel. 40, Last annotation updat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RELAAERPTVQDAN - - - FHRHEEEERGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     44.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        50034 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 1059.5;
Pred. No. 5.2e
71; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -KYNAESTER---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PDSFFTFVPAGSSPHLLHKSLKSVYYINSLFLPFLCIINFS
IIS (IN REF. 1).
; 37ADBC124E16429C CRC64;
   G.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             453
                                                                                                                                                                                                                                                                                                                                                                                                                        update)
                                                                                                                                                                                                                                                                                                                        Arabidopsis.
                                                                                                                                                                                                                                                                                                                                        Embryophyta; Tracheophyta; edons; core eudicots; Rosic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .2e-63;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VKLGLGDFIFYSVLLGKAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ESQDTVAENDDGGFS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         444;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       43;
                                                                                                                                                                                                                                                                                                                                          Rosidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       7;
```

```
Ş
                                                                                                                                  Š
                                                                                                                                                              밁
                                                                                                                                                                                        Š
                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                           ₽
                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                           В
Search completed: March 14, 2003, 20:07:43 Job time: 27 secs
                                                                             Ş
                                                                                                        망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TRANSMEM
TRANSMEM
TRANSMEM
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TRANSMEM
TRANSMEM
TRANSMEM
TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Utterback T., Van Aken S., Vaysberg M., Vysotskaia V.S., Walker M., Wu D., Yu G., Fraser C.M., Venter J.C., Davis R.W.; "Sequence and analysis of chromosome 1 of the plant Arabidopsis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Nature 408:816-820(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TRANSMEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRINTS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pfam; PF01080; Presenilin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL; AC003981; AAF99776.1; -. MEROPS; A22.UPW; -.

    -!- SUBCELLULAR LOCATION: Integral membrane protein (By similarity).
    -!- SIMILARITY: BELONGS TO THE PRESENILIN FAMILY.

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro;
                                                                                                           368
                                                                                                                                      379
                                                                                                                                                                 309
                                                                                                                                                                                           340
                                                                                                                                                                                                                    249
                                                                                                                                                                                                                                                                            190
                                                                                                                                                                                                                                                                                                      257
                                                                                                                                                                                                                                                                                                                              131 CFILLFNETILGTLSVEAGGIPIVLRQCYMVVMGIVVAAWFTK-LPEWTTWFILVALALY
                                                                                                                                                                                                                                                                                                                                                            198
                                                                                                                                                                                                                                                                                                                                                                                       71
                                                                                                                                                                                                                                                                                                                                                                                                                                            13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     82 VIMLEVPVTLCMVVVVATIKSVSFYT----RKDGQLIYTPFTEDTETVGQRALHSILNAA 137
                                                                                                                                                                                                                                                                                          | DLVAVLCPKGPLRMLVETAQERNETLFPALIY------SSTMVWLVN----
                                                                                                                         VKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCLTLLLLAIFKKALPALPIS 438
                                                                                                                                                                                                                                                                                                                                                           VALLIWNLGVVGMISIHWKG-PLRLQQAYLIMISALMALVFIKYLPEWTAWLILAVISVY
                                                                                                                                                                                                                                                                                                                                                                                   VEVVLIAAVTEILVLLEYYNETNELKHYMRESAEFVLGTMGGAIFLSIIQHESIPVDSIT
                                                                                                                                                                                                                                                                                                                                                                                                           IMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLFFFSFIYLGEVFKTYNVAVDYIT 197
                                                                                ITEGLVEYFATDYLVQPEM
                                                                                                           IKLGLGDFIFYSVLVGRA----AMYDLMTVYACYLAIISGLGCTLILLSVYNRALPALPIS
                                                                                                                                                              PSASEHSTSVGT-RGNMEDRESVMDEEMSPLVELMGWGDNREEARGLEESDNVVDISNRG
                                                                                                                                                                                 SDSGSVELQAVRNHDVNQLGRENSHNMDYNAIAVRDIDNVDDGIGNGSRGGLERSPLVGS
                                                                                                                                                                                                                                             MAEGDPEAQ-----RRVSKNSKYNAESTE--RESQDTVAENDDGGFSEE----
                                                                                                                                                                                                                                                                         DLVAVLAPGGPLKLLVELASSRDEEL-PAMVYEARPTVSSGNQRRNRGSSLRALVGGGGV
                                                                                                                                                                                                                                                                                                                                                                                                                                           IIGVMAPVSICMFLVVLLTYSLSVTSDPQIRSAANLIYIENPSDSTTV--KLEGSLANAI 70
                                                      IMLGVVFYFLTRLLMEPFV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PR01072;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IPR001108; Presenilin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      10
69
104
133
160
160
181
370
393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRESENILIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      30
124
153
153
180
201
390
413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         49308 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               22.9%;
33.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                76; Mismatches 146;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 546.5; DB 1; Pred. No. 3.7e-29;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      POTENTIAL.
POTENTIAL.
POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       7FBDD9B86D97955E CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 453;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 71;
                                                                                                                                                                                        ନ୍ଦ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                189
                                                                                                           424
                                                                                                                                                              367
                                                                                                                                                                                                                    308
                                                                                                                                                                                                                                                                                                    297
                                                                                                                                                                                                                                                339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 14;
```

THIS PAGE BLANK (USPTO)

```
Title:
Perfect score:
Sequence:
                                                                                                                                                                                                                    Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              OM protein - protein search, using sw model
     100
112
113
114
115
115
                                                                                                                                                                                                                                                                              Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
  1616
1612.5
1527.5
1473
1473
1414
1418
1417
1370
1368.5
1362.5
1362.5
1243.5
1221.1
1221
1221.1
1221.5
                                                                                                                                                                                            1984.5
                                                                                                                                                                                                                    Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ..
                                                                                                                                                                                                                                                                                                                                   SPTREMBL_21:*

Sp_archea:*

Sp_archea:*

Sp_fungi:*

sp_fungi:*

sp_fungi:*

sp_fungi:*

sp_numan:*

sp_mammal:*

sp_mammal:*

sp_mamal:*

sp_mamia:*

sp_organeli

sp_plant:*

sp_plant:*

sp_plant:*

sp_plant:*

sp_virus:*

sp_virus:*

sp_vertebra

sp_vurus:*

sp_unclass:

sp_archeap

17: sp_archeap
                                                                                                                                                                                                                   Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-689-159A-2
2391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          March 14, 2003, 19:20:04; Search time 58 Seconds (without alignments) 1659.035 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            671580 seqs, 206047115 residues
   83.0
67.6
67.6
63.9
60.4
60.4
60.4
59.3
59.3
57.2
57.2
57.2
57.2
57.3
59.3
59.3
59.3
59.3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MTELPAPLSYFQNAQMSEDN.....ATDYLVQPFMDQLAFHQFYI 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GenCore version 5.1.4_p5_4578 Copyright (c) 1993 - 2003 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                               sp_vertebrate:*
sp_unclassified:*
sp_rvirus:*
sp_bacteriap:*
sp_archeap:*
                                                                                                                                                                                                                                                                                                                                                                                                                                  sp_organelle:*
sp_phage:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sp_archea:*
sp_bacteria:*
                                                                                                                                                                                                                                                                                                                                                                                                          sp_plant:*
sp_rodent:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       sp_mammal:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       sp_invertebrate:*
                                                                                                                                                                                                                                                                                                                                                                                               sp_virus:*
                                                                                                                                                                                                                    Length
   B
     113
13
13
13
14
11
11
                                                                                                                                                       13
               3 090X08
09673
3 098673
3 073869
0901F6
091V53
0902E4
3 0902E4
3 091991
08WS58
3 090X07
08WS59
08WS59
090X07
08WS59
090X07
08WS59
090X07
                                                                                                                                                                                                                    IJ
                                                                                                                                                                                                                                                         SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    671580
090x08 gallus gall
096p33 homo sapien
09w6t7 brachydanio
073869 cyprinus ca
09uif0 homo sapien
091vs3 mus musculu
090ze4 brachydanio
091991 brachydanio
091991 brachiosto
090x07 gallus gall
08ws58 branchiosto
090x07 gallus gall
08ws59 branchiosto
                                                                                                                                                                                                                   Description
```

104	104	104.5	105	105.5	106.5	107	107.5	108	108	108	108	109	110	110.5	111	112	114	114	115.5	117	٠		123.5		•	5		æ
4.3	4.3	4.4	4.4	4.4	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.6	4.6	4.6	4.6	4.7	4.8	4.8	4.8	4.9	5.0	5.0	5.2	•	5.3	6.4		23.8
599	583	224	616	699	317	835	269	578	419	364	291	389	601	598	705	410	417	318	339	224	305	309	455	691	338	291	397	478
5	G	N	œ	10	17	4	Ν	N	4	16	16	16	G	10	11	N	16	17	17	N	4	16	16	4	G	17	10	10
Q22089	Q9VNZ5	Q8VSX5	Q9G859	Q93ZQ5	Q97CM0	Q9ULF5	OXVW6D	Q9RMN0	Q8TDV0	092UZ4	Q98LC7	Q928L0	Q95YF4	082747	Q8VIH3	Q939W3	Q8RH68	09н023	058554	Q8VSX2	Q96A60	Q98QR5	Q97FJ2	Q9HAS3	Q9GS14	Q8ZX12	Q9SIK7	Q9SDG2
Q22089 caenorhabdi	Q9vnz5 drosophila	Q8vsx5 staphylococ	Q9g859 malawimonas	Ç	Q97cm0 thermoplasm	Q9ulf5 homo sapien	Q9wvx0 pediococcus	Q9rmn0 caulobacter	Q8tdv0 homo sapien	Q92uz4 rhizobium m	Q981c7 rhizobium l	Q92810 listeria in	Q95yf4 drosophila	082747 arabidopsis	Q8vih3 rattus norv	Q939w3 aeromonas s			058554 pyrococcus	Q8vsx2 staphylococ	3	Q98qr5 mycoplasma	Q97fj2 clostridium	Q9has3 homo sapien	O	Q8zx12 pyrobaculum	7	Q9sdg2 oryza sativ

 $\begin{array}{c} 117 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\ 147 \\$

ALIGNMENTS

```
RESULT
Q966933
ID Q96933
D7 00
                                                                                                                             - B
                                                                                                                                                                    γQ
                                                                                                                                                                                                                                   ρy
                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                γQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   рь
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    γQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QΥ
 망- 양
                                                      -B- &
                                                                                                                                                                                              -- B-
                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                    ωy
                                                                                                                                                                                                                                                                                                                                           B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                              Query Ma
Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.

KANG L., Zhang B., Zhou Y., Peng X.

Submitted (SEP-2001) to the EMBL/Ge
EMBL, AF416717; AAL16811.1; -..

InterPro; IPR001108; Presentlin. 1.

Pfam; PF01080; Presentlin; 1.

R PRINTS; PR01072; PRESENILLN.

PRINTS; PR01072; PRESENILLN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q96P33; PRELIMINARY;
Q96F33;
01-DEC-2001 (TrEMBLrel. 19, C
01-DEC-2001 (TrEMBLrel. 19, L
01-MAR-2002 (TrEMBLrel. 20, L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens (Human).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Presenilin
   301
                                   301
                                                                   241
                                                                                                    241
                                                                                                                                      181
                                                                                                                                                                       181
                                                                                                                                                                                                         121
                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         N
                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                Local
                                                                                                                                                                                                                                                                                                                                                                              μ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Match
 GDPEAQRRVSKNSKYNAE
                   GDPEAQRRVSKNSKYNAE
                                                                                 LPEWTAWLILAVISVYDLVAVLCPKGPLRWLVETAQERNETLFPALIYSSTMVWLVNMAE
                                                                                                                                  YLGEVFKTYNVAVDYITVALLIWNEGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY
                                                                                                                                                                                                                        DTETVGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLEFFSFI
                                                                                                                                                                                                                                                                      MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VMMAEEDPEGGRKASKNSTYDKQAPANQSQNEDAEADDGGFSQEWQQQRDNRIGPIESTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VFIKYLPEWTAMLILAVISVYDLVAVLCPKGPLRMLVETAXERNETLFPALIYSSTMVWL
                                                                    LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE
                                                                                                                                                                                                       DTETVGQGALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLFFFSFI
                                                                                                                                                                                                                                                                                                                                             MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IGLCLTLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VNMAEGDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VFIKYLPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FFSFIYLGEVFKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IGLCLTLLLLAIFKKALPALPISITFGLVFYFATDNLVQPFMDQLAFHQFYI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FFSFIYLGEVFKTYNVAMDYITVALIIWNFGVVGMICIHWKGPLRLQQAYLIMISALMAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TPFTEETDTIGQRALNSILNAAIMISVIIVMTILLVVLYKYRCYKVIHGWLIISSLLLLF
                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                            67.6%;
99.4%;
                                 318
                                                                                                                                                                                                                                                                                                                                                                                                            Score 1616; D
Pred. No. 1.2e
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Created)
Last sequence up
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Peng X., Yuan J., EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A09D6D2FC6F5618D CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       378
                                                                                                                                                                                                                                                                                                                                                                                                            1.2e-126;
1es 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qiang B.;
databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                            Length
                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                            0
                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                  300
                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                          120
                                                                                                                                                                                                                                                                                                                                             60
                                                                                                                                                                                                     180
                                                                                                                                                                                                                                                                                                                                                                           60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             355
                                                                    300
                                                                                                                                      240
                                                                                                                                                                     240
                                                                                                                                                                                                                                                                        120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               236
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 235
                                                                                                                                                                                                                                                                                                                                                                                                            0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT
073869
ID 07
AC 07
DT 01
DT 01
                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                                                                                                         ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                        рЬ
                                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                           Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                          QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                    Ωy
                                                                                                                                                                                                     Вþ
                                                                                                                                                                                                                                                                                                                                                                                                            DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Qy
                                                                                                                                      밁
073869
073869;
01-AUG-1998
01-AUG-1998
```

PRELIMINARY; (TrEMBLrel. (TrEMBLrel.

07, 07,

Created) Last sequence

update)

PRT;

384

B

```
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q9W6T7;
01-NOV-1999 (TrEMBLrel. 1
01-NOV-1999 (TrEMBLrel. 1
01-DEC-2001 (TrEMBLrel. 1
Presenilin-1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Brachydanio rerio (Zebrafish) (Zebra danio).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniforma;
Cyprinidae; Danio.
NCBI_TaxID=7955;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ZFIN; ZDB-GENE 991119-4; psen.
InterPro; IPR001108; Presenilin.
Pfam; PF01080; Presenilin; 1.
PRINTS; PR01072; PRESENILIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Expression, proteolytic processing, and amyloidogenic zebrafish (Danio rerio) presenilin-1."; Submitted (APR-1999) to the EMBL/GenBank/DDBJ databases EMBL; AJ132931; CAB40386.1; -. MEROPES; A22.001; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q9W6T7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
Leimer U., Haass C
 414
                           425
                                                       354
                                                                                  367
                                                                                                               295
                                                                                                                                         310
                                                                                                                                                                       239
                                                                                                                                                                                                 250
                                                                                                                                                                                                                             179
                                                                                                                                                                                                                                                         190
                                                                                                                                                                                                                                                                                   119
                                                                                                                                                                                                                                                                                                               130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                w
                                                                                                                                                                                                                                                                                                                                           59
                                                                                                                                                                                                                                                                                                                                                                     71
                                                                                                                                                                                                                                                                                                                                                                                                                           12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                 6
EELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDG-QLIYTPFTEDTETVGQRA 129
                                                                      S--ILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCLTLLL:
                                                                                                                                                                                                                                                                                                                                                                                                                           QNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSRQVV-EQDEEED
                                                         {\tt ARPPPPADDDEERGVKLGLGDFIFYSMLVGKASATASGDWNTTLACFVAILIGLCLTLLL}
                                                                                                             -NNSSHPVPQQENQVVAMAPTAQAEDDGGFTPAWVDHQQHQLGPMQSTEESRRQIQEMPS
                                                                                                                                        SKNSKYNAESTERE----SQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAAVQELSS
                                                                                                                                                                                                                                                                                                                                                                                                 QNAANNVLNDGMDTSRHTSSTAAPPSRNEVELNGQP-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             456 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             50981 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   67.4%; Score 1612.5; 71.9%; Pred. No. 3e-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              12,
12,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Created)
Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             B90C42280C874F8D CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3e-126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 13; Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                         78;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              databases
                                                                                                                                                                                                                                                                                                                                                                                                  PTAPPQVVTDSEEDED
                             467
  456
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Cypriniformes;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        activity
                                                                                                                                                                                                                                                                                                                                                                                                                                                       19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   456;
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                189
                                                                                                                                           366
                                                                                                                                                                                                  309
                                                                                                                                                                                                                                                          249
                                                                                                                                                                                                                                                                                   178
                                                                                                                                                                                                                                                                                                                                                                                                  58
                                                                                                               353
                                                                                                                                                                                                                              238
                                                                                                                                                                                                                                                                                                                                                                                                                             70
                                                                                                                                                                       294
```

7;

```
RESULT
Q9UIFO
ID Q5
AC Q7
D7 0
                                                                                                                                                                                                                                                       망
                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δĀ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SQUE TETT TO DRAW TO THE TETT 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local S
Matches 310
                       O9UIFO PRELIMINARY;
O9UIFO;
01-MAY-2000 (TrEMBLrel. 1
01-MAY-2000 (TrEMBLrel. 1
01-DEC-2001 (TrEMBLrel. 1
Presenilin 1 (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Actinopterygii; Neopterygii; Teleostei; Cyprindae; Cyprinda
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-DEC-2001
PS1 protein
PS1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NON_TER
VARIANT
VARIANT
VARIANT
VARIANT
VARIANT
VARIANT
VARIANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VARIANT
VARIANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Expression and localization in the Alzhelmer's related PSI gene."; Neuroreport 9:2049-2056(1998). EMBL; Y17128; CAA76641.1; -. MEROPS; A22.001; -.
       Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRINTS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro; IPR001108; Presenilin. Pfam; PF01080; Presenilin; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Archer S., Hirano
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE-98337349;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE
                                                                                                                                                                                                                                                                                                    437
                                                                                                                                                                                                                                                                                                                                                                                              377
                                                                                                                                                                                                                                                                                                                                                                                                                                        234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                         354
                                                                                                                                                                                                                                                                                                                                                 294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     322
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IWNLGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKYLPEWTAWLILAVISVYDLVAV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLFFFSFIYLGEVFKTYNVAVDYITVALL
    sapiens
                                                                                                                                                                                                                                                       ISITEGLVEYFATDNLVRPEMDQLAVHQFYI
                                                                                                                                                                                                                                                                               ISITEGLVEYFATDYLVQPEMDQLAFHQEYI 467
                                                                                                                                                                                                                                                                                                                                                                                                                                      QENQDAVAPTAQPEDDGGFTPAWVNQQQHQLGPMQSTEDSRREIQELPSARPPPVEDDEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IWNFGVVGMICIHWKGPLRLQQAYLIMISALMALVFIKYLPEWTAWLILAAISVYDLLAV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VIVVMTLVLVVLYKYRCYKVIQGWLFFSNLLLLFFFSFIYLGEVFKTYNVAMDYFTLAVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               310;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PR01072;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         560
560
63
118
118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (TrEMBLrel. (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
    (Human).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRESENILIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PubMed=9674592;
J., Diss J.K.J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           56
60
63
83
118
200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    43276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  63.98;
79.38;
                                            13,
19,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     19,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          28;
                                            Created)
Last sequence up
Last annotation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Last
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score
Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PAGKSPAH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          I -> V.
A -> S.
A -> V.
S -> G.
S -> A.
S -> A.
S -> A.
F97EEFE24B31FDAA CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     annotation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Fraser S.P.,
e fish retina
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1527.5; DB
No. 3e-119;
                                                                                                                                                                                                                                                       384
                                                                                                                                           289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Vertebrata; Euteleostomi;
Ostariophysi; Cypriniformes;
                                                                                                                                        Ā
                                                                  update)
                                                 update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            40;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Djamgoz M.B.A.; of a homologue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                                         436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     60
                                                                                                                                                                                                                                                                                                                                                                                                                                      293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            6
RESULT
Q91VS3
ID Q91
AC Q9
AC 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local S
Matches 288
                                                                                                                                                                                                                                                                                                                                          Q91VS3;
Q91VS3;
01-DEC-2001
01-DEC-2001
01-JUN-2002
Presenilin 2
                  Submitted (JUL-2001) to the EMBL EMBL; BC010403; AAH10403.1; -. MGD; MGI:109284; Psen2. InterPro; IPR001108; Presenilin. Pfam; PF01080; Presenilin; 1.
                                                                                                                                                                                                                        Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Submitted (DEC-1999) to the EMBI
EMBL; AC004858; AAF19253.1; -.
InterPro; IPR001108; Presenilin.
Pfam; PF01080; Presenilin; 1.
    SEQUENCE
                                                                                                                               Strausberg R.;
                                                                                                                                                         SEQUENCE FROM N.A.
TISSUE-BREAST TUMOR;
                                                                                                                                                                                                                                                                                                                       PSEN2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRINTS; PR01072; PRESENILIN.
NON_TER 289 289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Submitted (JUN-1998)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Genome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Toward a complete human ge
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota; Metazoa;
Mammalia; Eutheria;
NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Waterston
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Colowicz
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE=99063792; PubMed=9847074
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    μ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ب
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      sequence of Homo:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Res.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               complete human genome s. 8:1097-1108(1998).
                                                                                                                                                                                                                                                                                                                                              ٥.
                                                                                                                                                                                                                                                                                                                                                               l (TrEMBLrel.
l (TrEMBLrel.
l (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        289 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   N.A.
Presenilin;
AA; 49964 P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Chordata; Craniata; Vertebrata; Euteleostomi; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        33067 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61.68;
99.78;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 sapiens PAC clone RP4-687K1.";
to the EMBL/GenBank/DDBJ databa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Biewald
                                                                                                                                                                                                                                                                                                                                                                 19,
19,
21,
    ¥.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                              EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                 Last sequence up
                                                                                                                                                                                                                                                                                                                                                                                                                Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score
Pred
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      d T.;
PAC clone
                                                                                                                                                                                                                                                  Sciurognathi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRT;
                                                                                                                                                                                                                                                                          Craniata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        D503395A31C0EECB CRC64;
  2ED1DE7AFC3E0581 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ed. No. 7.46
Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1473;
No. 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                           448
                                                                                                                                                                                                                                                     Vertebrata; Euteleostomi;
thi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .4e-115;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BG
                                                                                                                                                                                                                                                                                                                                                                                      update)
                                                                                                                                                                                                                                                                                                                                                                 update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4
                                                                                                                 databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length
```

Indels

Gaps

0

120

120

60 60

180

180

289; 0

289

```
RESULT
O90ZE4
I AC Q9
DT Q9
OC Q9
OC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δδ
                                            δÃ
                                                                                                                    - 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                              Dest Local S
Matches 294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Ma
Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q90ZE4
Q90ZE4;
01-DEC-2001
01-DEC-2001
01-MAR-2002
                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.

Jiang Y.-J., Davies A., Lewis J.;

Jiang Y.-J., Davies A., Lewis J.;

"The cloning and function of ps2 in zebrafish.

Submitted (AUG-1999) to the EMBL/GenBank/DDBJ

EMBL; AF178539; AAK61828.1; -

InterPro; IPR001108; Presenilin.

Pfam; PF01080; Presenilin; 1.

SEQUENCE 441 AA; 49132 MW; B0080F2ABC7674E
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Cyprinidae; Danio.
NCBI_TaxID=7955;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Brachydanio rerio (Zebrafish)
Eukaryota; Metazoa; Chordata;
Actinopterygil; Neopterygil; T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Presenilin-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             122
           63
                                                 58
                                                                                             20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local
                                                                                                                                      N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Match
                          NSRQVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQ-LIYT
                                                                                                                                 TELPAPLSYFQNAQMS----EDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSL-GHPEPLSNGRPQGNSRQ
        -DRERADTPDGEEEELTLKYGAKHVIMLFIPVTLCMVVVVATIKSVSFYTEKSGQRLIYT
                                                                                         SESPTVPSYNQDNAMSLPQDTDSKRSGAVRSRSAS-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LLLLAVFKKALPALPISITFGLIFYFSTDNLVRPFMDTLASHQLYI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCLT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAAV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PEWTAMLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LGEVLKTYNVAMDYPTLFLAVWNFGAVGMVCIHWKGPLVLQQAYLIVISALMALVFIKYL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LGEVFKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKYL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EEL-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DPSSQGAL--QLPYDPE-MEEDSYDSFGE---PSYPEAFEAPLPGYPG---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -----LEEELTLKYGAKHVIMLFVPVTLCMIVVVATIKSVRFYTEKNGQLIYTPFTED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ESPTSRSCQEGRPGPEDGESTAQWRTQESEEDCEEDPDRYACSGAP-----GRPSG----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             300;
                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (Tremblrel. 19, Created)
(Tremblrel. 19, Last seq
(Tremblrel. 20, Last ann
                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EEEEERGVKLGLGDFIFYSVLVGKAAATGNGDWNTTLACFIAILIGLCLT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             60.4%;
                                                                                                                                                                                                59.3%;
62.0%;
                                                                                                                                                                              45;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           43;
                                                                                                                                                                              Score 1418; D
Pred. No. 4.9e
45; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Last sequence up
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score
Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (Zebra danio).
; Craniata; Vertebrata; Euteleostomi;
Teleostei; Ostariophysi; Cypriniform
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRT;
                                                                                                                                                                                                                                                                   B0080F2ABC7674BD CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1445;
No. 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     441
                                                                                                                                                                            18; DB 13;
. 4.9e-110;
tches 75;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 11;
2.8e-112;
nes 81;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AΑ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              update)
                                                                                                                                                                                                                                                                                                                                                      databases
                                                                                         GSGDAGPV-----
                                                                                                                                                                              Indels:
                                                                                                                                                                                                                    Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Cypriniformes;
                                                                                                                                                                              60;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           42;
                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   402
                                                                                           62
                                                                                                                                   57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      74
                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8;
```

```
RESULT

OPEN

OPEN
                                                                                                                                    망
                                            Вþ
                                                                                 γQ
                                                                                                                                                                            20
                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                DЬ
                                                                                                                                                                                                                                                                                                                                                          ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Вb
  Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Б
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÕ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local S
Matches 299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       091991;
091991;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Putative PRE2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
Lardelli M., McCarty R., Tamme R., Kortschak D.;
Lardelli M., McCarty R., Tamme R., Kortschak D.;
"The function of presenilin2 in zebrafish embryogenesis.
"The function of presenilin2 in zebrafish embryogenesis.
Submitted (FEB-2000) to the EMBL/GenBank/DDBJ databases.
EMBL; AJ271795; CAB71930.1; -
MEROPS; A22.002; -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Brachydanio rerio (Zebrafish) (Zebra dan
Eukaryota; Metazoa; Chordata; Craniata;
Actinopterygii; Neopterygii; Teleostei;
Cyprinidae; Danio.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-OCT-2000 (TrEMBLrel.
01-OCT-2000 (TrEMBLrel.
01-DEC-2001 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRINTS; PR01072; PRESENILIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           InterPro; IPR001108; Presenilin.
Pfam; PF01080; Presenilin; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NCBI_TaxID=7955;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  .122
  237
                                              182
                                                                                          177
                                                                                                                                       122
                                                                                                                                                                                117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                             63
                                                                                                                                                                                                                                                                                                                                                                                                       Local Similarity 62.9 les 299; Conservative
                                                                                                                                                                                                                                                                       58
                                                                                                                                                                                                                                                                                                                20
                                                                                                                                                                                                                                                                                                                                                             N
                                                                                                                                    TPESRAAVQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELPAPLSYFQNAQMS----EDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FIKYLPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PFEEDPNSVGQRLLNSVLNTLVMISVIVEMTIILVLLYKYRCYKFIHGWLILSSLMLLFW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PFTEDTETVGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLFF
FIKYLPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLV
                                                FSFMYLGEVFKTYNVAMDYPTLLMIIWNFGVVGMICIHWKGPLRLQQAYLIVISALMALI
                                                                   FSFIYLGEVFKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMALV
                                                                                                                                                                                                                                                                                                                   SESPTVPSYNQDNAMSLPQDTDSKRSGAVRSRSAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GMADSNNPDSAGERRRSGGGVRTQEGVESEDDAPQAGR-----RQYSAEEDLE-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NMAEG---DPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FIKYLPEWSAWVILGAISIYDLIAVLCPKGPLRMLVETAQERNEPIFPALIYSSAMVWMV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 presenilin2 homolog
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    441 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 49169 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                59.3%;
62.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         15,
19,
                                                                                                                                                                                                                                                                                                                                                                                                         44;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EDRGVKLGLGDFIFYSVLVGKAAAT-GGDWNTTLACFVA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Last sequence up
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Created)
                                                                                                                                                                                                                                                                                                                                                                                                                              Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BC720F2398E5F82A CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                1417;
No. 5.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             danio).
ta; Vertebrata; Euteleostomi;
ei; Ostariophysi; Cypriniform
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   441
                                                                                                                                                                                                                                                                                                                                                                                                       DB 13;
5.9e-110;
es 70;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ą
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         update)
                                                                                                                                                                                                                                                                                                                     -GSGDAGPV-----
                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Cypriniformes;
                                                                                                                                                                                                                                                                                                                                                                                                         62;
                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                       181
                                                                                                                                                                                176
                                                                                                                                                                                                                                                                       116
                                                241
                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                     62
                                                                                                                                                                                                                                                                                                                                                             57
    296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         353
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   236
                                                                                                                                                                                                                                                                                                                                                                                                         10;
```

```
RESULT ON STATE OF THE PROPERTY OF THE PROPERT
   밁
                        Ş
                                                         밁
                                                                                          δõ
                                                                                                                                    밁
                                                                                                                                                         Q
                                                                                                                                                                                              밁
                                                                                                                                                                                                                               οy
                                                                                                                                                                                                                                                                  B
                                                                                                                                                                                                                                                                                               γ
                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      B
                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         density genomic region illustrates lineage.; Gene 279:157-164(2001). EMBL; AR369891; AAL40416.1; CEMBL; AF369890; AAL40416.1; JOINED InterPro; IPR00010847; HTH Lysr. InterPro; IPR0001108; Presenilin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
MEDLINE=21590369; PubMed=11733140;
Martinez-Mir A., Canestro C., Gonzalez-Duarte R., Albalat P.
Martinez-Mir A., Canestro C., Gonzalez-Duarte R., Albalat P.
"Characterization of the amphioxus presentlin gene in a hi"
"Characterization of the amphioxus presentlin during the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q8WS58
Q8WS58;
Q1-MAR-2002
Q1-MAR-2002
Q1-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pfam; PF01080; Presen111n; 1.
PRINTS; PR01072; PRESENTIIN.
PROSITE; PS00044; HTH_LYSR_FAMILY; UNKNOWN_1.
SEQUENCE 504 AA; 55443 MW; 9C3794D0302859B4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa;
Branchiostoma.
NCBI_TaxID=7739;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Branchiostoma floridae (Florida lancelet) (Amphioxus).
Eukaryota; Metazoa; Chordata; Cephalochordata; Branchiostomidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Presentlin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    413
                                    325
                                                                                                                                      219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         297
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          242
     339
                                                                                                   267
                                                                                                                                                                     207
                                                                                                                                                                                                      159
                                                                                                                                                                                                                                        147
                                                                                                                                                                                                                                                                         99
                                                                                                                                                                                                                                                                                                          87
                                                                                                                                                                                                                                                                                                                                           46
                                                                                                                                                                                                                                                                                                                                                                          27
                                                                                                                                 TILLVVLYKYRCYKVIHAWLIISSLLLLEFESFIYLGEVEKTYNVAVDYITVALLIWNLG
|: ||:|||||| || ||:|||:||| ||::|| |
TVELVILYKYRCYKEIHGWLILSSLMLLELEAYIYLGEVLQAYNIPCDYITLAIVMWNEG
                                                                                                                                                                                                                                                                     RSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSRQVVEQDEEEDEELTLKYGAKHVIMLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GMADSNNPDSAGERRRS-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PAGAVGGEEEGGFGPDWNESRGFQPTRRPNRGGNASDASVNSEDARQAAQNLSNGRLSPS
                                                                                                                                                                                                                                                                                                                                           RSQQIQENTPDGADRREAG-----DGGEDHGIRHR--EDEEEEDTEMTLKYGAKHYIMLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NMAEG - -
                      -QDTVAENDDGGFSEEWEAQR--DSHLGPHR-----STPESRAAVQELSSSILA--
                                                                                                                                                                                                                                                                                                                                                                                                             11 Similarity
275; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (TrEMBLrel.) (TrEMBLrel.)
                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -DPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRS
| :|| |
                                                                                                                                                                                                                                                                                                                                                                                                        57.3%; Score 1370; DB 5; 58.8%; Pred. No. 5.8e-106; tive 56; Mismatches 101;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                20,
20,
21,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Created)
Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            JOINED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ą
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -GGGVRTQEGVESEHDAP---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 504;
                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             vertebrate
                                                                                                                                                                                                                                                                                                                                                                                                          36;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              gene-
                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   412
                                  370
                                                                                                                                                                                                                                                                         158
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    335
                                                                                                                                                                                                                                                                                                      146
                                                                                                                                                                                                                                                                                                                                         98
                                                                                                                                                                                                                                                                                                                                                                         86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301
   398
                                                                    338
                                                                                                   324
                                                                                                                                                                    266
                                                                                                                                                                                                     218
                                                                                                                                                                                                                                      206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     353
                                                                                                                                    278
                                                                                                                                                                                                                                                                                                                                                                                                          7.;
RESULT 11
Q8WS59
ID Q8WS5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 10
Q90X07
ID Q90X07
ID Q90XC
D7 Q1-DE
D7 Q1-DE
D7 Q1-DE
D7 Q1-M
DF Prese
OS Gallt
OC EUKAT
OC ARCHO
OC ARCHO
OC ARCHO
CO ARCHI
RN [1]
RP SEQUE
RA "CLOT
RL Submi
DR Pfam;
DR Pfam;
SQ SEQUE
                                                                                                            Qy
                                                                                                                                                                              δõ
                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                  Q
                                                                                                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                     Q
                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                   日
                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.

KOTAGE MITRICS 2., Keryanov S., Lovelock J., C
"Cloning of chicken presentlins.";
Submitted (JUL-2001) to the EMBL/GenBank/DDBJ
EMBL; AY043493; AAK95409.1;
InterPro; IPR001108; Presentlin.
Pfam; PF01080; Presentlin; 1.

SEQUENCE 451 AA; 50496 MW; 534E6364C627E8B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Presenilin 2.
Gallus gallus (Chicken).
Eukaryota; Metazoa; Chor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q90X07;
01-DEC-2001 (TrEMBLrel. 19,
01-DEC-2001 (TrEMBLrel. 19,
01-MAR-2002 (TrEMBLrel. 20,
 Q8WS59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Archosauria; Aves;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q90X07
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=9031;
                                                                                   396
                                                                                                                    407
                                                                                                                                                  344
                                                                                                                                                                                   347
                                                                                                                                                                                                                    299
                                                                                                                                                                                                                                                      287
                                                                                                                                                                                                                                                                                        239
                                                                                                                                                                                                                                                                                                                        227
                                                                                                                                                                                                                                                                                                                                                         179
                                                                                                                                                                                                                                                                                                                                                                                          167
                                                                                                                                                                                                                                                                                                                                                                                                                          119
                                                                                                                                                                                                                                                                                                                                                                                                                                                           107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ω
                                                                                  IYSSAMIWTVGMAK--PDTAAKGQSQQAWDAED-ERENHSSTSHSD-----
                                                                                                                                                                                                                                                                                                          IMISALMALVFIKYLPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPAL
                                                                                                                                                                                                                                                                                                                                                       TEKNGQLIYTPFSEDTPSVGQRLLNSVLNTIIMISVIVVMTVFLVVLYKYRCYKFIHGWL
                                                                                                                                                                                                                                                                                                                                                                                                                                             TRKDGQLIYTPFTEDTETVGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ESPPVPSYQDGLQASE-----TREAQTHRKRQT--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LTLLLLAIFKKALPALPISITEGLIFNEATANLVTPFTDALASQQVYV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LTLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI 467
                                                                                                                                                    ILDTRSPAPSHPITLEEM-----
                                                                                                                                                                                                                                                    IYSSTMYWLVNMAEGDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDS
                                                                                                                                                                                                                                                                                        IMISALMVLVFIKYLPEWSAWVILGAISIYDLIAVLCPKGPLRMLXETAQERNQPIFPAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
 PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; Chordata; Craniata; Vertebrata; Euteleostomi; Neognathae; Galliformes; Phasianidae; Phasiani
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           57.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           46;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Last sequence up
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 1368.5;
Pred. No. 6.7
   PRT;
                                                                                                                                                    -EEEERGVKLGLGDFIFYSVLVGKAAATPSGDWNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              534E6364C627E8B0 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
   525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .7e-106;
les 75;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ₽
   ₹
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  update)
on update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Corey
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              databases
```

Indels

Gaps

8;

GSSRSP

178 166 118 106 58 60

226

238

454

SS-

343

346

298

286

406

395

Length

451; 65;

S

٠<u>.</u> ::

Phasianinae;

```
RESULT 12
Q9GU38
ID Q9GU3
AC Q9GU3
DT 01-MA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local S
Matches 277
 Q9GU38;
Q9GU38;
01-MAR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q8WS59;
01-MAR-2002;
01-MAR-2002;
01-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL; AF369891; AAL40414.1; JOINED.
EMBL; AF369890; AAL40414.1; JOINED.
InterPro: IPR000147; HTH_LYSR.
InterPro: IPR001108; presenilin.
Pfam; PF01080; Presenilin; 1.
PRINTS; PR01072; PRESENILIN.
PROSITE; PS00044; HTH_LYSR, FAMILY; UNKNOWN_1.
SEQUENCE 525 AA; 57598 MW; 2B14CF77A80F07DE CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE-21590369; PubMed-11733140; Marthnez-Mir A., Canestro C., Gonzalez-Duarte R., Albalat "Characterization of the amphioxus presenilin gene in a hidensity genomic region illustrates duplication during the lineage.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Branchiostoma.
NCBI_TaxID=7739;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Eukaryota; Metazoa;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Branchiostoma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Presenilin
                                                                                                               517
                                                                                                                                               459
                                                                                                                                                                              458
                                                                                                                                                                                                           399
                                                                                                                                                                                                                                           399
                                                                                                                                                                                                                                                                        353
                                                                                                                                                                                                                                                                                                      339
                                                                                                                                                                                                                                                                                                                                    320
                                                                                                                                                                                                                                                                                                                                                                    279
                                                                                                                                                                                                                                                                                                                                                                                                  267
                                                                                                                                                                                                                                                                                                                                                                                                                                 219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              159
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       27
                                                                                                         ALASQQVYV
                                                                                                                                                                                           TASGDWNTTIACEVAILIGLCLTLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMD
                                                                                                                                                                                                                                                                                                                                                                                   AVGMVCIHWKGPLLLQQAYLIVISALMALVFIKYLPDWTTWFILGAISLYDLVAVLCPKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                VVGMISIHWKGPLRLQQAYLIMISALMALVFIKYLPEWTAMLILAVISVYDLVAVLCPKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TVFLVILYKYRCYKFIHGWLILSSLMLLFLFAYIYLGEVLQAYNIPCDYITLAIVMWNFG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TILLVVLYKYRCYKVIHAWLIISSLLLLEFFESFIYLGEVFKTYNVAVDYITVALLIWNLG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APVSLCMAVVVATISSITFYTEKNGYLIYTPFHEEGASTASKVGDSLANGAIMVGVILVM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTEDTETVGQRALHSILNAAIMISVIVVM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RSQQIQENTPDGADRREAG-----DGGEDHGIRHR--EDEEEEDTEMTLKYGAKHVIMLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSRQVVEQDEEEDEELTLKYGAKHVIMLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          279:157-164(2001)
                                                                                                                                           QLAFHQFYI
                                                                                                                                                                                                                                         VNSEDARQAAQNLSNGRLSPSGNQQQQQQMEEDEDEEERGVKLGLGDFIFYSVLVGKAS-
                                                                                                                                                                                                                                                                                                      FRLLDNEAGSTGDDADAFDSAPAGAVGGEEEGGFGPDWNESRGFQPTRRPNRGGNASDAS
                                                                                                                                                                                                                                                                                                                                    ---TERESQDT-----VAENDDGGFSEEWEAQR--DSHLGPHR---
                                                                                                                                                                                                                                                                                                                                                                   PLKVLVETAQERNEPIFPALIYSSTMMWFVGMADSDPEAKKKKKKKKKKRRADGDPQAAGG
                                                                                                                                                                              -SNGDWNTTLACFVAILIGLCLTLLLLAIFKKALPALPISITFGLIFNFATANLVTPFTD
                                                                                                                                                                                                                                                                        -STPESRAAVQELSSSILA------GEDPEERGVKLGLGDFIFYSVLVGKASA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2 (TrEMBLrel.
2 (TrEMBLrel.
2 (TrEMBLrel.
   (TrEMBLrel.
                                  PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    floridae (Florida lancelet) (Amphioxus)
tazoa; Chordata; Cephalochordata; Branch
                                                                                                               525
                                                                                                                                             467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    57.0%;
56.6%;
   16,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    20,
20,
21,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      56;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Created)
Last sequence update)
Last annotation updat
   Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 1362.5;
Pred. No. 2.6
                                  PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                  582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    5; DB 5;
                                  ₿
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     99;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Branchiostomidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           high
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           vertebrate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ₽.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   57;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gene-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                          458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        98
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    86
                                                                                                                                                                              516
                                                                                                                                                                                                                                         457
                                                                                                                                                                                                                                                                       398
                                                                                                                                                                                                                                                                                                                                                                   338
                                                                                                                                                                                                                                                                                                                                                                                                319
                                                                                                                                                                                                                                                                                                                                                                                                                              278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           158
                                                                                                                                                                                                                                                                                                      398
                                                                                                                                                                                                                                                                                                                                    352
                                                                                                                                                                                                                                                                                                                                                                                                                                                             266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8;
```

Вb

20

밁 δÃ

g Ψ0 Б 20

7

)1 (TrEMBLrel.)1 (TrEMBLrel.)2 (TrEMBLrel.)2 presenilin 1.

19, 19, 21,

Created)
Last sequence update)
Last annotation update)

D. -Q-Db -δ g ٠<u>٥</u> ₽ δ. ď -ω-

```
RESULT
Q91WK6
                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                                                                δÃ
   DAT DAT AC
                                                                                                          밁
                                                                                                                           δÃ
                                                                                                                                                В
                                                                                                                                                                   Qγ
                                                                                                                                                                                          밁
                                                                                                                                                                                                           ρy
                                                                                                                                                                                                                                  뫄
                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                     Д
                                                                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                                             Вb
                                                                                                                                                                                                                                                                                                                                                                                                      뫄
                                                                                                                                                                                                                                                                                                                                                                                                                       QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                               ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ρy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
Q91WK6;
Q91WK6;
01-DEC-2001
01-DEC-2001
01-JUN-2002
Similar to p
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Tyrsin 0.; "Presenilin gene isolated from mollusk Helix 1 submitted (CCT-1999) to the EMBL/GenBank/DDBJ EMBL, AF197881; AAG28518.1; -InterPro; IPRO01108; Presenilin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-MAR-2001
01-JUN-2002
Presenilin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa; M
Helicacea; Helicidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pfam; PF01080; Presenilin; 1. PRINTS; PR01072; PRESENILIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PS.
Helix lucorum.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=31229;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Rogaev
                                                                                                          568
                                                                                                                              453
                                                                                                                                                  510
                                                                                                                                                                                                               374
                                                                                                                                                                                                                                    390
                                                                                                                                                                                                                                                       348
                                                                                                                                                                                                                                                                                                                                                              212
                                                                                                                                                                                                                                                                                                                                                                                  175
                                                                                                                                                                                                                                                                                                                                                                                                       152
                                                                                                                                                                      393
                                                                                                                                                                                          450
                                                                                                                                                                                                                                                                            332
                                                                                                                                                                                                                                                                                                 295
                                                                                                                                                                                                                                                                                                                      272
                                                                                                                                                                                                                                                                                                                                         235
                                                                                                                                                                                                                                                                                                                                                                                                                           115
                                                                          13
                                                                                                                                                                                                                                                                                                                                                                                                                                               98
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  55
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       39
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ٥
                                                                                                                                                                                                                                                                                                                                                                                                     VQPEMDQLAFHQFYI
                                                                                                                                                 VGKAS--SNGDWNTTLACFVAILIGLCCTLLLLAIFRKALPALPISLTFGLVFNFATSSL
                                                                                                                                                           VGKASATASGDWNTTIACFVAILIGLCLTLLLLAIFKKALPALPISITEGLVFYFATDYL 452
                                                                                                                                                                                                                                                                                                                                LVFIKYLPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVW 294
                                                                                                                                                                                                                                                                                                                                                             FFFSFMYLEQILRAYNAPMDYVTVAIIMWNFGVGGLFCIHWKGPLLLQQAYLIVVSALVA
                                                                                                                                                                                                                                                                                                                                                                                                                                                         PQGNSRQVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLI 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               267; Conserv
                                                                                                          VQPFMDSLASEQVYI
                                                                                                                                                                                          VNVDQRDGAVVANSRSQNNSRTRPALQRRPLDSDSIDQDDSEEERGVKLGLGDFIFYGVL
                                                                                                                                                                                                                                                                            PVTMADDGDQSKKKQKKKGLKTGAQNSSVTTPLGKDT--DDDDGGFTEHVANGTNRQHS
                                                                                                                                                                                                                                                                                                LVNMAEGDPEAQRRVS-----KNSKYNAESTERESQDTVAENDDGGFSEEWE--AQRDSH 347
                                                                                                                                                                                                                                                                                                                                                                         FFFSFIYLGEVFKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMA
                                                                                                                                                                                                                                                                                                                                                                                                                                               PSGGN----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SRYGSLQMSTEDDV-NAVPEATVVDPRSQGDASSRSAGNNSRHQVTSQARSERRAPPNTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SYFONAQMSEDNHLSNTV-----RSQNDNRERQEHNDRRSLGHPEPLS-----NGR 54
                                                                                                                                                                                                                                 LTASQDSQSARNAVQAFGDMVQDKPRTDRNAVSHTTVVNTTNSARVLATKDGAGVESAVR
                                                                                                                                                                                                                                                      LMFIKYTPDWTTWAVLGVMVIWDLVAVLCPKGPLRMLVETAQSRNEPIFRALIYSSTMMW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         E.I., R
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        582 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                     PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Riazanskaia N.N.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                              ODEDDDEE-TLLYGAKHVIMLFIPVTLCMVVVVATISSITYYTSGGVYLI 151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mollusca;
e; Helix.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      52.0%;
48.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        63782 MW;
                                                                                                                              467
                                                                                                           582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      16,
21,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 73;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 1243.5;
Pred. No. 2.5e
73; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Last sequence update)
Last annotation update)
                                                      PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gastropoda;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        07934E7C452199F0 CRC64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Dvorianchikov
                                                                                                                                                                                                               -----PEERGVKLGLGDFIFYSVL
                                                     261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .5; DB 5;
1.5e-95;
                                                     ₿
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pulmonata;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 108; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         G.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    lucorum.",
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Grigorenko
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Stylommatophora;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 107;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A.P.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                             271
                                                                                                                                                                                                                                                                                                                                                                                  234
                                                                                                                                                  567
                                                                                                                                                                                           509
                                                                                                                                                                                                              392
                                                                                                                                                                                                                                    449
                                                                                                                                                                                                                                                       373
                                                                                                                                                                                                                                                                            389
                                                                                                                                                                                                                                                                                                                      331
                                                                                                                                                                                                                                                                                                                                                                                                      211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 11;
```

ij

```
RESULT Q96P32 ID Q96P32 Q96P32 Q96P32 Q96P3 Q96P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                            В
                                                                               ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                           Query Match
Best Local S
Matches 253
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local S
Matches 235
                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.

Xu Y., Hu X., Zhou Y., Peng X., Yuan J., Qiang Submitted (SEP-2001) to the EMBL/GenBank/DDBJ c EMBL; AF416718; AAL18812.1; -...
InterPro; IPR001108; Presenilin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-DEC-2001 (TrEMBLrel.
01-DEC-2001 (TrEMBLrel.
01-MAR-2002 (TrEMBLrel.
Presenilin 2 transcript
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q96P32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q96P32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Submitted (OCT-2001) to the EMBL,
EMBL, BC014744; AAH14744.1; --
MGD; MGI:1202717; Psen1.
InterPro; IPR001108; Presenilin.
Pfam; PF01080; Presenilin; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Rodentia;
                                                                                                                                                                                                                SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata;
Mammalia; Eutheria; Primates;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                     NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PSEN2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Strausberg R.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TISSUE-EYE, AND RETINA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
    62
                                              24
                                                                                    ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                \vdash
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        \vdash
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LPEWTAWLILAVISVY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            YLGEVFKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTE
  VVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTED
                                          ESPTPRSCQEGRQGPEDGENTAQWRSQENEEDGEEDPDRYVCSGVP-----GRPPG----
                                                                                 ELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRR-SLGHPEPLSNGRPQGNSRQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LPEWTAWLILAVISVY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    YLGEVFKTYNVAVDYVTVALLIWNFGVVGMIAIHWKGPLRLQQAYLIMISALMALVFIKY
                                                                                                                                                                                                                                                       PF01080; Presenilin; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                               Similarity
                                                                                                                                                                                                                390
390 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  080; Presenilin; 1.
261 AA; 29849 MW;
                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRELIMINARY;
                                                                                                                                                                                                             390
43727 MW; A62C791CED9DCF8A CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                               Chordata;
                                                                                                                                               49.78;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    51.1%;
91.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            256

    Created)
    Last sequence update)
    Last annotation update
    variant 2 (Fragment).

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  14;
                                                                                                                              35;
                                                                                                                           Score 1188; D
Pred. No. 6.4e
35; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL/GenBank/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 1221;
Pred. No. 6
                                                                                                                                                                                                                                                                                                                                                                                                                              Craniata; Vertebrata; Euteleostomi; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Craniata; Vertebrata; Euteleosto
Sciurognathi; Muridae; Murinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    16FB53FBE20EA4EB CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Vertebrata; Euteleostomi;
                                                                                                                                               .4e-91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .9e-94;
                                                                                                                                                                      DB 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          11;
                                                                                                                                                                                                                                                                                                                     g B.;
databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          databases
                                                                                                                                                                   Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length
                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                              42;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0,
                                                                                                                         Gaps
                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60
                                          74
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      60
                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
                   20
```

```
RP SEQUENCE .....

RC STRAIN-CSPEL/GJ; TISSUE-HEAD;

RX MEDLINE-21085660; PubMed-11217851;

RX MEDLINE-21085660; PubMed-11217851;

RA ARWAI J. Shinagawa A., Shibata K., Yoshino M., Itoh M., Ishii Y.,

RA Arakawa T., Hara A., Fukunishi Y., Konno H., Adachi J., Fukuda S.,

RA Alzawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I.,

RA Alzawa K., Dava M., Nishi K., Kiyosawa H., Kondo S., Yamanaka I.,

RA Saito T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Saito R.,

RA Kudota K., Matsuda H.A., Ashburner M., Battalov S., Casavant T.,

RA Kuehl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,

RA Kuehl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,

RA Schriml L.M., Staubli F., Suzuki R., Tomita M., Wagner L., Washio T.,

RA Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,

RA Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo M.F.,

RA Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo M.F.,

RA Gustincich S., Hill D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.,

RA Lyons P., Marchionni L., Mashiam J., Mazzarelli J., Mombaerts P.,

RA Suzuki H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F.,

RA Suzuki H., Toyo-oka K., Wang K.H., Weitz C., Whittaker C., Wilming L.,

Wonshaw-Boris A., Yoshida K., Hasegawa Y., Kawaji H., Kohtsuki S.,
                                                                                      RESULT 15
Q9D616
ID 09D61
AC 09D61
DT 01-JU
ELKAR
OC ELKAR
RN 161
RN HEDLI
RX MEDLI
RX MEDLI
RX KAWAI
RA AIZAW
RA AIZAW
RA AIZAW
RA AIZAW
RA SAITO
RA KAGOTO
RA KORTI
RA SUZUK
RA HAYAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                믕
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      γ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q9D616 PRELIMINARY; PRT; 32 AA.
Q9D616;
01-JUN-2001 (TrEMBLrel. 17, Created)
01-JUN-2001 (TrEMBLrel. 17, Last sequence update)
01-JUN-2001 (TrEMBLrel. 17, Last annotation update)
0 day neonate head cDNA, RIKEN full-length enriched library,
clone:4833415A15, full insert sequence.
                                                                                                                                                      Pfam;
                                                                                                                                                                                                             Hayashizaki Y.; "Functional annotation of a "Functional annotation of a Nature 409:685-690(2001). EMBL; AK014706; BAB29514.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa;
Mammalia; Eutheria;
NCBI_TaxID=10090;
                                                                                      PRINTS; PRO1072; PRESENILIN. SEQUENCE 332 AA; 37588 MW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                [1]
SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
TISSUE-HEAD:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mus musculus (Mouse)
                                                                                                                                                   InterPro; IPR001108; Presenilin.
Pfam; PF01080; Presenilin; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LGEVEKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKYL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EEL-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PEWTAWLILAVISYYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LGEVLKTYNVAMDYPTLLLTVWNFGAVGMVCIHWKGPLVLQQAYLIMISALMALVFIKYL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TPSVGQRLLNSVLNTLIMISVIVVMTIFLVVLYKYRCYKFIHGWLIMSSLMLLFLFTYIY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TETVGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLEFFSEIY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DPSSQGAL--QLPYDPE-MEEDSYDSFGE---PSYPEVFEPPLTGYPG----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAAV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PEWSAWVILGAISVYDLVAVLCPKGPLRMLVETAQERNEPIFPALIYLSAMVWTVGMAKL
Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              --LEEELTLKYGAKHVIMLFVPVTLCMIVVVATIKSVRFYTEKNGQLIYTTFTED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EEEEERGVKLGLGDEIFYSVLVGKAAATGSGDWNTTLA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Chordata;
Rodentia;
                                                                                         37588 MW;
39.8%;
                                                                                                                                                                                                                                                                          full-length
Score
Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Craniata; Vertebrata;
Sciurognathi; Muridae;
                                                                                         5728A699675A7D4D CRC64;
   952.5;
No. 2.3
NO.
                                                                                                                                                                                                                                                                                 mouse
; DB 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Muridae;
                            11;
                                                                                                                                                                                                                                                                                 CDNA
                                                                                                                                                                                                                                                                             collection.";
                            Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Euteleostomi;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Murinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
```

Matches

Conservative

Mismatches

35;

Indels

17;

Gaps ML 85

27

RSQNDNRERQEHNDRRSL-GHPEPLSNGRPQGNSRQVVEQDEEEDEELTLKYGAKHVIML

```
Title:
Perfect score:
Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Minimum
Maximum
×
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Database :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OM protein - protein search, using sw model
                                                                                                                         Pred. No. is the number of results predicted by chance to h score greater than or equal to the score of the result bein and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB
BIG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              seq length: 0
seq length: 2000000000
                                                                                                                                                                                                                                                   A_Geneseq_101002:*

1: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1980.DAT:*

2: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1981.DAT:*

3: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1983.DAT:*

4: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1983.DAT:*

5: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1983.DAT:*

6: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1986.DAT:*

7: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1986.DAT:*

8: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1988.DAT:*

9: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1989.DAT:*

9: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1989.DAT:*

10: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1989.DAT:*

11: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1991.DAT:*

12: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1992.DAT:*

13: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1993.DAT:*

14: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1993.DAT:*

15: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1993.DAT:*

16: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1993.DAT:*

17: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1993.DAT:*

18: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1993.DAT:*

20: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1993.DAT:*

21: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1993.DAT:*

22: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1993.DAT:*

23: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1993.DAT:*

23: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1993.DAT:*

23: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA1993.DAT:*

23: /SIDS1/gcgdata/geneseq/geneseqp-emb1/AA2000.DAT:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            March 14, 2003, 19:14:13; Search time 38 Seconds (without alignments) 1637.580 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-689-159A-2
2391
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          908470 seqs, 133250620 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MTELPAPLSYFQNAQMSEDN.....ATDYLVQPFMDQLAFHQFYI 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GenCore version 5.1.4_p5_4578 Copyright (c) 1993 - 2003 Compugen Ltd.
                                                            SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         908470
                                                                                                                                                      to have
being pr
                                                                                                                                                             printed,
```

Result No.	Score	Query Match Length DB	Length !	В	ID	Description
1	2387	99.8	467	17	AAW05733	Presenilin-1-1. H
N	2387	99.8	467	19	AAW23964	Human presenilin-1
ω	2387	99.8	467	19	AAW41430	PS1/467 protein.
4	2387	99.8	467	20	AAY24419	Human presenilin-1
s	2387	99.8	467	20	AAY23897	Amino acid sequenc
6	2387	99.8	467	21	AAB07971	Amino acid sequenc
7	2387	99.8	467	22	AAE10798	Human presenilin-1
8	2387	99.8	467	22	AAG63936	Amino acid sequenc
9	2387	99.8	467	22	AAE05466	Human presenilin (
10	2387	99.8	467	23	AA018049	Presenilin protein

PR XX PA PA XX PA XX PA XX PI DR	PRX PRX PRX XX	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	RES AAW ID XX	
28-APR- 28-JUN- (HSCR-) (UTOR) Fraser WPI; 19 N-PSDB;	W096 29-A	23-JUL-1 Presenil Presenil familial depressi	RESULT 1 AAAW05733 ID AAW057 XX AC AAW057	44444888888888888888888888888888888888
)9-A 1996 1996	.997 .in- .in- .an-	T 1 733 AAW05733 sta	2384 2384 2388 2388 2388 2388 2388 2388
1995; 95US-(1995; 95US-(1995; 95US-(1995; 95US-(1995; 95US-(HSC RES & DEV UNIV TORONTO DE, Rommens : 25, Rommens : 36-497631/49. AAT40028.		(first 1-1. 1; human; zheimer's	andard;	
. 1 of -6	-CA00	entr ; hPS s dis y; ge	Protein;	4467 4667 4667 4667 4667 4667 4667 4667
	- טוס	se e		123 123 123 123 123 123 123 123 123 123
NG COUNCIL. George-Hyslop PH;		hPS1-2; PS-2; integra ; cerebral haemorrhago xpression modulator; t	ALIGNMENTS	AAUT79416 AAE17051 AAAE17051 AAAE05755 AAW05758 AAW05754 AAW05736 AAW05749 AAW05749 AAW05741 AAW05738 AAW05738 AAW05741 AAW05738 AAW05746 AAW05746 AAW05746 AAW05746 AAW05746 AAW05746 AAW05757 AAW05746 AAW05756 AAW05776 AAW05776 AAW05776 AAW05776 AAW05776 AAW05776 AAW05776 AAW05776 AAW05776
		gral membrane protein; AD; age; schizophrenia;		Human presenilin-1 Human mutant prese Presenilin-1-1-1-2, Presenilin-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1

Claim

```
motif, common alternate splicing patterns, and common mutational hot spot regions. Mutations in PS genes are implicated in familial Alzheimer's disease (AD) and possibly other diseases such as cerebral haemorrhage, schizophrenia, depression etc., so detection of mutations the DNA encoding these sequences can be used for diagnosis of these diseases. These proteins, or vectors that express them or containing antisense sequences, antibodies selective for mutant forms of these proteins (such as ANMOS736) and modulators of PS gene expression are potentially useful for treatment of AD etc. Transgenic animals are usef as models for drug screening. The antibodies can also be used e.g. for affinity purification and in immunoassays.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAW05733 and AAW05734 represent the two different forms of wild type human presentlin-1 (PS-1). The form represented by AAW05734 results from alternate splicing of the genomic DNA sequence. AAW05762 represents the coding sequence for wild type human PS-2. The presentlins are a family of highly conserved integral membrane proteins with a common structural
Presenilin-1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New presentlin genes - useful for diagnosis, therapy and drug screening of familial Alzheimer's disease, cerebral disorders,
                      Human presenilin-1.
                                                20-JUL-1998
                                                                        AAW23964;
                                                                                                AAW23964 standard;
                                                                                                                                                                                                                                                                                                                                                                                                      QVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR
                                                                                                                                                                         TLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI 467
                                                                                                                                                                                                                                                         GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                                                                                                                    GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                                                                                                                                                                                                                     YLGEVFKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR
                                                                                                                                                                                                                      VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL
                                                                                                                                                                                                                                                                                                                      LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE
                                                                                                                                                                                                                                                                                                                                                        QVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTE
                                                                                                                                                            TLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI
                                                                                                                                                                                                           VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL
                                                                                                                                                                                                                                                                                                         LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       466;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2; Page 128-130;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                               (first
 PS1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A
 gene;
                                                                                               Protein;
                                               entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 99.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     178pp; English.
 human;
                                                                                                 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 2387; DB 17;
Pred. No. 4.5e-235;
0; Mismatches 1;
familial Alzheimer's
                                                                                                ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length
 disease;
                                                                                                                                                            467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             467;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
 FAD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   is are useful
de.g. for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              etc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                           420
                                                                                                                                                                                                                                                         360
                                                                                                                                                                                                                                                                                 360
                                                                                                                                                                                                                                                                                                         300
                                                                                                                                                                                                                                                                                                                                300
                                                                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                         180
                                                                                                                                                                                                                                                                                                                                                                                                                                                        120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0;
 Misc-difference
                                   Misc-difference
                                                                                                                                                           Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Key
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 mental retardation; diagnosis; therapy; transgenic animal.
                                                           Misc-difference
                                                                                   Misc-difference
                                                                                                                                   Misc-difference
                                                                                                                                                                                   Misc-difference
                                                                                                                                                                                                           Misc-difference
                                                                                                                                                                                                                                             Misc-difference
                                                                                                                                                                                                                                                                                 Misc-difference
                                                                                                                                                                                                                                                                                                        Misc-difference
                                                                                                                                                                                                                                                                                                                                 Misc-difference
                                                                                                                                                                                                                                                                                                                                                                     Domain
                                                                                                                                                                                                                                                                                                                                                                                                         Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                            Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens
                                                                                                                                                                                  /note=
146
                                                                                                          /note=
263
                                                                                                                                                           /note-
171
          280
                                   /note=
280
                                                          /note=
267
                                                                                                                                    /note=
260
                                                                                                                                                                                                           143
                                                                                                                                                                                                                                                                                /note= "Ile439Val mutation site 257
                                                                                                                                                                                                                                                                                                         /note= "Phell7Ser mutation site
439
                                                                                                                                                                                                                                                                                                                                /note= "transmembrane domain 177
                                                                                   264
                                                                                                                                                                                                                                               258..290
                                                                                                                                                                                                                                                                                                                                                                  /label= TM6-7
/note= "hydrophilic loop"
408...428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers 82..100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /label= TM3-4
/note= "hydrophilic
195..212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note= "hydrophilic
133..154
                                                                                                                                                                                                                                  /note=
                                                                                                                                                                                                                                                                      /note= "Asp257Ala
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /label= TM4
/note= "transmembrane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /label= TM2-3
/note= "hydrophilic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note= "transmembrane domain
                        /note=
                                                                                               /note=
                                                                                                                                                                                                                                                                                                                                                           /label=
                                                                                                                                                                                                                                                                                                                                                                                                      263..407
                                                                                                                                                                                                                                                                                                                                                                                                                   /label= TM6
/note= "transmembrane domain
                                                                                                                                                                                                                                                                                                                                                                                                                                             244 . . 262
                                                                                                                                                                                                                                                                                                                                                                                                                                                     /label= TM5-6
/note= "hydrophilic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note= "transmembrane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /label= TM4-5
/note= "hydrophilic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /note= "transmembrane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /label- TM3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /label= TM2
/note= "transmembrane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /label=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /label=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               164..183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  'label=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              84..194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     . 163
                                                                                                                       "Ala260Val mutation site
                                                                                                                                                                      "Met146Leu
                                                                                                                                                                                              "Ile143Thr mutation
"Glu280Gly
                        "Glu280Ala
                                                                       "Pro264Leu
                                                                                               "Cys263Arg
                                                                                                                                              "Leu171Pro mutation site
                                                                                                                                                                                                                                 "residue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TM5
                                                                                                                                                                                                                      with
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TM1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TM1-2
                                                                                                                                                                                                                                                         residue
                                                                                                                                                                                                                     due 258-290 
Asp257Ala m
                                                                                                                                                                                                                                                         la mutation site,
258-290 deletion
                                                                                                                                                                      mutation
                        mutation
mutation
                                                                       mutation
                                                mutation
                                                                                               mutation
                                                                                                                                                                                                                                                                                                                                                                                                                                                        loop"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               loop"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            loop'
                                                                                                                                                                                                                     0 deletion (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        domain
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                domain
                                                                       site
                                                                                                                                                                      site
                                                                                                                                                                                              site
site
                        site
                                                site
                                                                                                site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ŋ
                                                                                                                                                                                                                     n mutant,
(Claim 1)
                                                                                                                                                                                                                                                        associated (Claim 1)"
                                                                                                                                                                                                                                                                                              (Claim
(Claim
                        (Claim
                                                                       (Claim 18)"
                                                                                               (Claim
                                                                                                                       (Claim
                                                                                                                                               (Claim
                                                                                                                                                                      (Claim 18)"
                                                                                                                                                                                              (Claim
                                                                                                                                                                                                                                                                                                                     (Claim
                                                (Claim
 18) "
                        18)"
                                                18)"
                                                                                               18)"
                                                                                                                       18)"
                                                                                                                                                                                              18)"
                                                                                                                                                                                                                                                                                            1)"
                                                                                                                                               18)
                                                                                                                                                                                                                          associated
                                                                                                                                                                                                                                                                       with
```

2

121 61 61

В ρy В Š

ш _ Matches Query Match Best Local

Sequence

Š מם

В

ᄝ γQ В Qy

301 301 241 241 181 181 121

361

_6. B δÃ

421 421

361

B

RESULT 2
AAW23964
ID AAW2
XX
AC AAW2
AC AAW2
XX
AC AAW2
XX
AC Huma
XX
DE Huma
XX
KW Pres

Misc-difference

```
02-JAN-1997;
05-JUL-1996;
12-JUL-1996;
08-NOV-1996;
                                                                                                                     (HSCR-)
This polypeptide comprises human presentlin-1 (hPS1). Its amino acid sequence was deduced from an isolated cDNA clone (see AAV0466 Another hPS1 sequence (see AAV03965) results from alternative splicing of the hPS1 mRNA transcript. A murine PS1 homologue (see
                                     Claim
                                                                                                                                                                                                                                                                                                                                                  Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                              Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                             Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Misc-difference
                                                           products
                                                                   New
                                                                                                                                                                                 04-JUL-199
                                                                                                                                                                                                15-JAN-1998
                                                                                                                                                                                                              WO9801549-A2
                                                                                                                                                                                                                                            Misc-difference
                                                                                                                                                                                                                                                                         Misc-difference
                                                                                                                                                                                                                                                                                        Misc-difference
                                                                                                                                                                                                                                                                                                       Misc
                                                                                                                                                                                                                                                                                                                      Misc-difference
                                                                                                                                                                                                                                                                                                                                     Misc-difference
                                                                                                                                                                                                                                                                                                                                                                  Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                             Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                            Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Misc-difference
                                                                   isolated
                                                                                         1998-286355/25
                                     ۲.
                                                                                                        ÞE,
                                                    and
                                                                                                                     UNIV TORONTO
                                                                                  AAV04666
                                     Page
                                                                                                        Rommens
                                                          mutant presenilin-1 genes - use in detection, diagnosis
                                     180-182;
                                                                                                                                           97US-0034590.
96US-0021673.
96US-0021700.
96US-0029895.
                                                                                                                                                                                                                                                                                       /note=
246
                                                                                                                                                                                                                                                                                                                                    /note-
209
                                                                                                                                                                                                                                                                                                                                                  /note=
163
                                                                                                                                                                                                                                                                                                                                                                /note=
163
                                                                                                                                                                                                                                                                                                                                                                                /note=
146
                                                                                                                                                                                                                                                                                                                                                                                                              /note=
: 139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note=
322
                                                                                                                                                                                                                                                                                                      /note-
231
                                                   drug
                                                                                                                                                                                 97WO-CA00475
                                                                                                                                                                                                                                           /note=
26..29
                                                                                                                                                                                                                                                           /note=
384
                                                                                                                                                                                                                                                                                                                     /note=
211
                                                                                                                                                                                                                                                                                                                                                                                               /note=
139
                                                                                                                                                                                                                                                                                                                                                                                                                             /note-
115
                                                                                                                                                                                                                                                                                                                                                                                                                                             /note=
96
                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note=
79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note-
410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /note-
392
                                                                                                                                                                                                                                                                         /note- "Ala246Glu mutation 291..319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note=
286
                                                                                                        ž
                                                    screening
                                                                                                                     GOVERNING
                                                                                                                                                                                                                            "residue 26-29 deletion, alternative splicing"
                                                                                                                                                                                                                                                  "Gly384Ala
                                                                                                                                                                                                                                                                 "residue 291-319
                                                                                                                                                                                                                                                                                              "Ala231Thr mutation
                                                                                                                                                                                                                                                                                                             "Ile211Thr mutation
                                                                                                                                                                                                                                                                                                                             "Gly209Val mutation
                                                                                                                                                                                                                                                                                                                                                                                                      "Met139Thr mutation
                                                                                                                                                                                                                                                                                                                                                                                                                                     "Val96Phe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               "Leu392Val mutation
                                    238pp;
                                                                                                                                                                                                                                                                                                                                         "His163Tyr mutation
                                                                                                                                                                                                                                                                                                                                                         "Hisl63Arg
                                                                                                                                                                                                                                                                                                                                                                        "Met146Val
                                                                                                                                                                                                                                                                                                                                                                                        "Met139Val
                                                                                                                                                                                                                                                                                                                                                                                                                     "Tyrll5His
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Ala79xaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "Cys410Tyr mutation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Leu322Val
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Leu286Val
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Ala285Val mutation
                                                                                                                                                                                                                                                                                                                                                                                                                                                   "Val82Leu
                                                                                                        3£
                                                                                                      George-Hyslop
                                     English.
                                                                                                                      COUNCIL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                  mutation site"
                                                                                                                                                                                                                                                                                                                                                                                                                                    mutation site"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 mutation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             mutation
                                                                                                                                                                                                                                                                                                                                                                        mutation
                                                                                                                                                                                                                                                                                                                                                                                       mutation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             mutation
                                                                                                                                                                                                                                                  mutation
                                                                                                                                                                                                                                                                                                                                                                                                                      mutation
                                                                                                                                                                                                                                                                                                                                                          mutation
                                                                                                                                                                                                                                                                 deletion
                                                        useful for developing and therapy of Alzheimer'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 site"
                                                                                                                                                                                                                                                                                               site"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            site
                                                                                                                                                                                                                                                                                site'
                                                                                                                                                                                                                                                                                                                                                                                                      site"
                                                                                                                                                                                                                                                                                                              site"
                                                                                                                                                                                                                                                                                                                             site"
                                                                                                                                                                                                                                                                                                                                           site"
                                                                                                                                                                                                                                                                                                                                                                         site"
                                                                                                                                                                                                                                                                                                                                                                                       site"
                                                                                                                                                                                                                                                                                                                                                                                                                      site"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            site
                                                                                                                                                                                                                                   resulting
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (Claim
                                                                                                                                                                                                                                                                 site"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                18)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               18)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             18)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           18)"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            18)"
                                                                                                                                                                                                                                    from
              AAV04666).
```

apoptosis; PS1/467

Alzheimer's

disease;

PS1/467 protein. 04-JUN-1998

(first

entry)

Presenilin peptide; PS1/429; immunogen; immune response; PS1

mitochondrial pathology; neurodegeneration;

gene;

W09746678-A1 Homo sapiens

```
RESULT 3
AAW41430
ID AAW4
XX
AC AAW4
XX
XX
BC AAW4
XX
AC AAW4
XX
AC AAW4
XX
AC AAW4
XX
BC PS1/
XX
KW Pres
KW Pres
KW Alzh
KW Apop
XX
PN WO97
XX
WO97
                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                             Q
                                                                                                                                                                                                                                                                                                                           밁
                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                                               B
                                                                                                                                                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                                                                                                                     B
                                                                                                                                                                                                                                                                                                                                                                                                                                                             ρ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 γQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     999999999999999888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cerebral haemorrhage, schizophrenia, depression, mental retardation and epilepsy. Use of the nucleic acids and proteins comprising or derived from the presentilins is made in screening and diagnosing FAD, identifying and developing therapeutics for treatment of FAD, and in producing cell lines and transgenic animals useful as models of FAD. Methods for identifying substances that bind to, or modulate the activity of a presentlin protein, and methods for identifying substances that affect the interaction of a presentlin-interacting protein with a presentlin protein are also
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               provided. Mutations in the PS-1 and PS-2 genes are linked to to development in humans of forms of familial Alzheimer's disease (FAD) and may be causative of other disorders, e.g. cognitive, intellectual, neurological or physiological disorders such as
                                                                                                                                                                                                      AAW41430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAW23966) and a human presenilin-2 protein (see AAW23967)
                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         μ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    _
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Focat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR
                                                                                                                                                                                                                                                                                                                                                                               QVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTE 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               466;
                                                                                                                                                                                                                                                                                     TLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI
                                                                                                                                                                                                                                                                                                                                           VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DTETVGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLFFFSFI
                                                                                                                                                                                                                                                                        TLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI
                                                                                                                                                                                                                                                                                                                            VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DTETVGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLFFFSFI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                      standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ΑA;
                                                                                                                                                                                                      Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99.8%;
                                                                                                                                                                                                       467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 2387; DB 19;
Pred. No. 4.5e-235;
0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                467
                                                                                                                                                                                                                                                                        467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          467;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        are also
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                       420
                                                                                                                                                                                                                                                                                                                                                                                                          360
                                                                                                                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   60
                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                                                  360
```

PF

```
CC specifically stated as not being in the nucleic acid of the invention, CC which encodes the PS1/429 presentilin peptide PS1/429 (II) Cells CC which encodes the PS1/429 presentilin peptide PS1/429 (II) Cells CC transformed with the DNA are used to produce recombinant (II) and CC analogues, useful e.g. as immunogens for generating an immune response CC against PS1/429. (II) is a new product of the PS1 gene, mutations in CC which cause Alzhelmer's disease (AD). The nucleic acids are generally CC particularly for diagnosis of AD, especially the target sequences that CC hybridise with probes are isolated for sequencing. Antibodies (Ab) can class be diagnosed at the protein level using Ab as immunoassay reagents. CA b can also be used to identify epitopes and for affinity purification of peptides. Antisense nucleic acid may also be used to regulate expression CC of the PS1/429 gene, and both nucleic acids and peptides are useful as includes. Antisense smodels for AD, e.g. for testing drugs. Regulators of CC canimals are used as models for AD, e.g. for testing drugs. Regulators of CC involving mitochondrial pathology, apoptosis and neurodegeneration. CC synthetic or natural compounds. (II) may also be used to target other CC coding sequences to particular cellular locations.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
Matches 466; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 1998-042186/04
N-PSDB; AAV17358.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Chisholm
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          18-JUL-1996;
06-JUN-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          03-JUN-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DNA encoding presenilin peptide PS1/429 and its analogues for diagnosis and treatment of Alzheimer's disease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           11-DEC-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (FARB ) BAYER
                             361
                                                                               301
                                                                                                                                301
                                                                                                                                                                                   241
                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               --
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ш
                           VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL
                                                                                                       GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                                                            LPEWTANLILAVISYYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE
                                                                                                                                                                                                                                                                                                                      YLGEVFKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY
                                                                                                                                                                                                                                                                                                                                                                                                                                                 DTETVGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLFFFSFI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR
                                                                         GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                                                                                                                                                                                                                                                DTETVGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLFFFSFI
                                                                                                                                                                                   LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE
                                                                                                                                                                                                                                                                                           YLGEVFKTYNVAVDYITVALLIWNFGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY
'n,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            467 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ۲,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Davis JN-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             96US-0659296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      96US-0683315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          97WO-US09272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Drache
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 2387; DB 19; Pred. No. 4.5e-235;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     467;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                             360
                                                                                                                                                                                                                                                                                                                                            240
                                                                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           60
                                                                                                                                                                                 300
                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0,
```

_გ

δ-밓

> Ω DЬ Qy

> > 1

밁

61 61

QVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTE 120 QVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTE 120

0

Ş -B- &

망

b

-8 DЬ - 0 ď Š

```
RESULT 4
AAY24419
                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                       mutant presentlin gene. The mutant presentlin gene causes amino acid constitutions at 1 or more positions of 79, 82, 96, 115, 120, 135, 139, 2143, 146, 163, 209, 213, 231, 235, 246, 250, 260, 263, 264, 267, 269, 22 280, 285, 286, 290, 318, 384, 392, 410, 426 and 436, with corresponding N-terminals being e.g. A79V, V82L, A426 and P436S, particularly by replacing isoleucine of position 213 by another amino-acid especially threonine. The gene mutant animals e.g. mice can be used as model animals for the study of human Alzheimer's diseases and to screen and cevaluate substances as candidates for prevention and/or therapy of Alzheimer's diseases in patients. They can over-produce amyloid beta protein by the presentin-1 gene to cause nerve cell death or patients goff in the hippocampus earlier. Such animals are being pathologically close to human patients with Alzheimer's diseases. The present sequence represents human presentin-1, as given in the present
                                                         Best Loc
Matches
                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                             Mutant presentlin-1 gene-introduced animals, useful as model animals for study of Alzheimer's diseases in human and screening substances for prevention and/or treatment of the diseases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                15-Jป
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human presenilin-1.
                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                    The present invention describes a gene mutant animal having a non-human
                                                                                                                                                                                                                                                                                                                                                                                                 Disclosure; Page 51-52; 64pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Takeda J,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           08-JAN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        07-JAN-Y
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              W09934670-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Presenilin-1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                23-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAY24419;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAY24419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (DAUC ) DAIICHT PHARM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361
                                                                          Local
MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1999-430307/36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI
                                                         al Similarity
466; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAX90184.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          standard;
                                                                                                                    467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Takeda M;
                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      mutation;
                                                                                                                    A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           98JP-0002191
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        99WO-JP00015
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Protein;
                                                                          99.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CO LTD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gene mutant animal; Alzheimer's disease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          467
                                                         Score 2387; D
Pred. No. 4.5e
0; Mismatches
                                                           0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A
                                                         .5e-235;
.es 1;
                                                                                         DВ
                                                            Indels
                                                                                     Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 467
                                                                                         467;
                                                           0,
                                                           Gaps
```

```
RESULT 5
AAY23897
ID AAY2
XX AAY
XX Huma
XX Press
KW 
                     The present sequence represents wild type human presenilin 1 (PS1) protein. The specification describes a method for identifying substance that alter the interaction of a presenilin with a presenilin-binding protein. The method comprises contacting the interacting domain of a presenilin protein to a presenilin-binding protein in the presence of a test substance, and measuring the interaction of the presenilin and the presenilin protein. The method can be used to screen individuals for presenilin alleles associated with Alzheimer's disease such as schizophrenia and depression, and neurological disease, such as schizophrenia and depression, and neurological disease, such as
                                                                                                                                                                                                                                                                                                                                                                                                           Identifying substances that alter presentilin interactions, useful for screening individuals for presentilin alleles associated with Alzheimer's disease - useful for diagnosis of Alzheimer's disease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              09-JAN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         08-JAN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               stroke; cerebral
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human; presentlin 1; PS1; presentlin-binding protein; interacting domain;
presentlin allele; Alzheimer's disease; sentle dementia;
psychiatric disease; schizophrenta; depression; neurological disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAY23897;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (UTOR ) UNIV TORONTO GOVERNING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   15-JUL-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             W09935501-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Amino acid sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            27-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAY23897 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                         ntlly....
f screening in...
for's disease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1999-419410/35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LPEWTAWLILAVISVYDLVAVLCPKGPLRWLVETAQERNETLFPALIYSSTMVWLVNMAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               YLGEVEKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMALVEIKY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DTETVGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLFFFSFI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DTETVGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLFFFSFI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    YLGEVFKTYNVAVDYITVALLIWNFGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY
      and cerebral
                                                                                                                                                                                                                                                                                                                                                          Page
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             St George-Hyslop
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              98US-0070948.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               haemorrhage.
                                                                                                                                                                                                                                                                                                                                                          34-36;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -CA00018
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            of the wild
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      entry)
                                                                                                                                                                                                                                                                                                                                                    40pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           467
                                                                                                                                                                                                                                                                                                                                                       English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COUNCIL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            type
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ₹
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            human presenilin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 (PS1)
                                                                                                                                                                                                                                                              substances
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 240
```

õ 밁 Ş 밁 Ş 밁 Ş 밁 Ş 밁 Š

밁

```
RESULT 6
AAB07971
                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DЬ
밁
                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sox
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local S
Matches 466
                                                                                                              17 - Ad
                                                                                                                                                                           Human; presenilin; PS1; PS2; nerve cell growth; nerve damage; hN neural plakophilin related armidillo protein; Alzheimer's diseas Parkinson's disease; amyotrophic lateral sclerosis; ALS; stroke; multiple sclerosis; ischemia; stroke; neural paropathy; sciatic motor neuron disease; peripheral neuropathy; neuropathy; diabete spinal cord injury; facial nerve crush.
                            St George-Hyslop PH,
                                                                                                                                 WO200047615-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                         11-FEB
                                                                                                                                                                                                                                                  Amino
                                                                                                                                                                                                                                                                       14-NOV-2000
                                                                                                                                                                                                                                                                                            AAB07971;
                                                                                                                                                                                                                                                                                                               AAB07971 standard;
                                                                      12-FEB-
                                                                                                                                                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                             361
                                                                                                                                                                                                                                                                                                                                                                                                                                 361
                                                                                                                                                                                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  _
        2000-524531
                                                                                                                                                                                                                                                                                                                                                                   TLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                    DTETYGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLFFFSFI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR
                                                                                                                                                      sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 YLGEVFKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DTETYGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLFFFSFI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR
                                                                                                                                                                                                                                                                                                                                                                                                            VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL
                                                                                                                                                                                                                                                                                                                                                                                                                      VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       YLGEVFKTYNVAVDYITVALLIWNFGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY
                                                                                                             G-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE
                                                                                                                                                                       neuron disease; perin
                                                                                                                                                                                                                                                  acid
                                                                                        2000;
                                                                     1999;
                                                                                                                                                                                                                                                  sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                 TORONTO
                                                                                        2000WO-CA00126
                                                                                                                                                                                                                                                                      (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AA,
                                                                     99US-0119835
                                                                                                                                                                                                                                                                                                               protein;
                                                                                                                                                                                                                                                  of human
                                                                                                                                                                                                                                                                      entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     99.8%;
                                                 GOVERNING
                             Fraser
                                                                                                                                                                                                                                                                                                                467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score
Pred.
                             PE
                                                                                                                                                                                                                                                  presenilin I polypeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2387;
No. 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 20;
1.5e-235;
nes 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 467;
                                                                                                                                                                                                                   disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
                                                                                                                                                                                                                              hnprap;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                             crush;
                                                                                                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                                                                                                 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       60
                                                                                                                                                                                                                                                                                                                                                                                                                                                     360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          120
```

```
RESULT 7
AAE10798
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The present sequence represents a human presentlin I (PSI) polypeptide. Human Neural Plakophilin Related Armidillo Protein (hNPRAP) polypeptide is known to interact with PSI and PS2. The specification describes a method for stimulating the growth of nerve cells, comprising contacting them with hNPRAP. The hNPRAP polypeptide and polynucleotide are useful for treating nerve damage caused by a variety of diseases or physical traumas, including Alzheimer's disease, Parkinson's disease, amyotrophic lateral sclerosis (ALS), multiple sclerosis, stroke, ischemia associated with stroke, neural paropathy, motor neuron diseases, sciatic crush, peripheral neuropathy, neuropathy associated with diabetes, spinal cord
Human; catenin pl20; presenilin-1; PS-1; neuroprotective; gene neurodegenerative disease; Alzheimer's disease; nootropic; propneuronal disorder; cognitive disorder.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Stimulation of nerve cell growth using human Neural Plakophilin I Armidillo Protein (hNPRAP) polypeptide, useful for the treatment diseases such as Alzheimer's, Parkinson's, and stroke -
                                                                                                                                                                                                    AAE10798 standard; Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Disclosure;
                                                                                                                           18-DEC-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          injuries
                                                                                                                                                                                                                                                                                                          421
                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR
                                                                                                                                                                                                                                                                                                        TLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTE
                                                                                                                                                                                                                                                                                                                                                                                                        VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR
                                                                                                                                                                                                                                                                                                                                                                                       VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL
                                                                                   presenilin-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          neuropathy, neuropathy associated with nd facial nerve crush.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Page 19-20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                      (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AA,
                                                                                 (PS-1)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        99.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    33pp; English
                                                                                 protein
                                                                                                                                                                                                        467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 2387; DB 21;
Pred. No. 4.5e-235;
0; Mismatches 1;
                                                                                                                                                                                                        A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length
                    prophylaxis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                         therapy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Related
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
```

밁

421

TLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI

467

420

360

300

300

В ·Q

P-04

707

В δ_

Ъ

Дb 20 Вp -0 В 20 B Š

```
δÃ
                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                            Ωy
                                                                                                                                                                                                                                                                                                                                                  Qy
Qy
                                 Вb
                                                                                          Вþ
                                                                                                                    Qy
                                                                                                                                                  д
                                                                                                                                                                                                          ₽
                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                 뮹
                                                                                                                                                                                                                                                                                                                          ₽
                                                                                                                                                                                                                                                                                                                                                                                  ₽
                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches 466;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          particular, neuronal disorders such as cognitive disorders and neurodegenerative diseases such as Alzheimer's disease. Catenin p120 DN are useful for identifying mutations in catenin p120 genes. Identification of such mutations assist in the diagnosis of or susceptibility to Alzheimer's or other conditions associated with presentlin and in assessing the physiology of such disorders. Catenin p120 DNAs are also used in hybridisation studies to monitor expression p120 genes and in particular for up or down regulation of catenin p120 expression. The present sequence is human presentlin-1 (PS-1) protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Identifying presenilin or catenin pl20 activity modulator useful modulating presenilin-catenin pl20 interaction and thus for tream cognitive disorder e.g., Alzheimer's disease comprises enhancing cognitive function -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             presenilin
are useful
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                responsive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Example
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Hale
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             10-MAR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        09-MAR-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     13-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WO200167097-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (GLAX )
    421
                                 361
                                                            361
                                                                                          301
                                                                                                                                                    241
                                                                                                                                                                                                            181
                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                               121
                                                                                                                      301
                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          invention relates
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RS,
                                                                                                                                                                                                                                                                                                                         MTELPAPLSY FQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR
                                                                                                                                                                LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE
                                                                                                                                                                                                                           YLGEVFKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY
      TLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI
                               VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL
                                              VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL
                                                                                          GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                      GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                    LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE
                                                                                                                                                                                                            YLGEVFKTYNVAVDYITVALLIWNFGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY
                                                                                                                                                                                                                                                                    DTETVGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLFFFSFI
                                                                                                                                                                                                                                                                                 DTETYGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLFFFSFI
                                                                                                                                                                                                                                                                                                                                                                                  MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2001-589954X66.
DB; AAD18120.
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GLAXO GROUP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Rowley A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ion relates to a method for identifying modulators of actenin p120. Modulators of catenin p120 and prophylaxis of disorders that for the treatment and prophylaxis of disorders that to modulation of presentilin/catenin p120 activity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Page 41-42; 48pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    467
                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2000GB-0005895
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2001WO-GB01059
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                         99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Blackstock
                                                                                                                                                                                                                                                                                                                                                                                                                                                         . 88
                                                                                                                                                                                                                                                                                                                                                                                                                                          0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score
Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     English
                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Σ
                                                                                                                                                                                                                                                                                                                                                                                                                                                         2387;
No. 4
                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 22;
1.5e-235;
nes 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length
      467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        467;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             that
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             seful for treating
                                                                                                                                                                                                                                                                                                                                                                                                                                            0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           presenilin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q.
```

Gaps

0,

120

60

60

180 180 120

240

240

In

DNAS

of.

```
20
                                В
                                                 Ş
                                                                       밁
                                                                                        Ş
                                                                                                            밁
                                                                                                                                 Š
                                                                                                                                                         Б
                                                                                                                                                                          Qy
                                                                                                                                                                                                   Query Ma
Best Loc
Matches
                                                                                                                                                                                                                                                            The present sequence represents human presentlin 1. KIAA0253 binds to presentlin. The specification describes a method of identifying a modulator of presentlin function or KIAA0253 function. The method comprises determining presentlin activity or KIAA0253 activity in the presence and absence of a test compound, where presentlin activity is determined by its ability to bind to KIAA0253. A modulator of presentlin or KIAA0253 polypeptide is useful in the manufacture of a medicament for the treatment or prophylaxis of Alzheimer's disease. The KIAA0253 polynucleotide and KIAA0253 polypeptide are useful in the treatment, prophylaxis or diagnosis of Alzheimer's disease.
                                                                                                                                                                                                                                                                                                                                                                                                 ability of presentin to bind to
and absence of a test compound,
of Alzheimer's disease -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WO200
                                                                                                                                                                                                                                            Sequence
                                                                                                                                                                                                                                                                                                                                                                                Disclosure; Page 40-41; 48pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                  Identifying a modulator
                                                                                                                                                                                                                                                                                                                                                                                                                                                        N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Hale
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                10-MAR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    09-MAR-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         13-SEP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   KIAA0253; presentlin; Alzheimer's disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Amino
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              29-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAG63936;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAG63936 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (GLAX )
             241
                                 181
                                                     181
                                                                          121
                                                                                              121
                                                                                                                 61
                                                                                                                                      13
                                                                                                                                                                                                             госат
                                                                                                                                                           1 MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR 60
LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIXSSTMVWLVNMAE
                              QVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTE 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2001-522960/57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (67109-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GLAXO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ₹001.
                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAH74993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Rowley
                                                                                                                                                                                                                                            467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sequence
                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2001WO-GB01057
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2000GB-0005894
                                                                                                                                                                                                                                            ₽
,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          of.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            entry)
                                                                                                                                                                                                            99.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Blackstock
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         human
                                                                                                                                                                                                                                                                                                                                                                                                           of presentlin function by determining the o bind to a KlAA0253 polypeptide in the presence ompound, useful in the treatment or prophylaxis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       467
                                                                                                                                                                                                    0;
                                                                                                                                                                                                 Score 2387; DB 22;
Pred. No. 4.5e-235;
0; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        presenilin
                                                                                                                                                                                                                                                                                                                                                                                English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ξ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ₿
                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                      Length 467;
                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                                                                                                                                                                                         presence
                                                                                                                                                                                                 Gaps
                                                                                            180
                                                    240
                                                                         180
                                                                                                                 120
                                                                                                                                                          60
                               240
                                                                                                                                                                                                 0;
```

```
RESULT 9
AAE05466
밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                               The invention relates to human Par-4 protein, presentlin protein (PS1 and PS2) and their corresponding DNA molecules. The invention also relates to a method for identifying inhibitors of neuronal degeneration, comprising cotransfecting eukaryotic host cells expressing presentlin (PS), with a Par-4 DNA, and an NF-kappa B dependent reporter construct, exposing the cotransfected cells to a candidate molecule and monitoring the ability of the candidate molecule to induce NF-kappa B activation. Presentlin proteins participates in nuclear factor kappa B (NF-kappa B) signalling and activation. The inhibitors of neuronal degeneration are useful for traating neurodegenerative disorders such as Alzheimer's disease, Parkinson's disease, epilepsy, multiple sclerosis, Huntington's chorea, Down's syndrome, nerve deafness, Meniere's disease and also for treating neurospathors motorupen disorders such as a contraction.
                                                                                                                                                                                                                                                                         Identifying inhibitors of neuronal degeneration useful for treating e.g. Alzheimer's disease, by determining the ability of a compound induce nuclear factor kappa B activation, with the involvement of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Parkinson's disease; Meniere
Huntington's chorea; Down's
nerve deafness; Alzheimer's
                                                                                                                                                                                                                                                                                                                                                                                                                               10-JAN-2000;
04-JAN-2001;
                                                                                                                                                                                                                                     Claim
                                                                                                                                                                                                                                                               presenilin or
                                                                                                                                                                                                                                                                                                                                  N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                        Mccarthy J, Cordell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          08-JAN-200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     19-JUL-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WO2001\51671-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              peripheral
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NF-kappa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAE05466
                                                                                                                                                                                                                                                                                                                                                                                                      (SCIO-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2001-451872/48.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE
                                                                                                                                                                                                                                     4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    presenilin (PS1)
                                                                                                                                                                                                                                                                                                                                  AAE05466
                                                                                                                                                                                                                                                                                                                                                                                                      SCIOS
                                                                                                                                                                                                                                     Page
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           B; neuronal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              neuropathy;
                                                                                                                                                                                                                                                                                                                                                                                                                                  2000US-0175200
2001US-0754949
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2001WO-US00526.
                                                                                                                                                                                                                                                                                                                                                                                                      INC
                                                                                                                                                                                                                                     60-61;
                                                                                                                                                                                                                                                                Par-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        presenilin; PS1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ilin; PS1; neuroprotective; nuclear factor kappa B; degeneration; spinal muscular atrophy; paralysis; y; motorneuron disorder; neurodegenerative disorder; ymeniere's disease; multiple sclerosis; Bell's palsy
                                                                                                                                                                                                                                   66pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  protein.
                                                                                                                                                                                                                                     English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      epilepsy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   amyotrophic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          467
                                                                as Alzheimer's is, Huntington's
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   palsy;
                                                                                                                                                                                                                                                                                          ៥
```

treating peripheral neuropathies, motorneuron disorders such as amyotrophic lateral sclerosis (ALS), Bell's palsy and various convolving spinal muscular atrophy and paralysis. The present see

conditions

involving spinal muscular

```
g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                <sup>^</sup>B
                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                 Db Qy
                                                                                                                                                                                                                                                                                                                                                                  Ď
                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                   ᄝ
                                                                                                                                                                                                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  γ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sox
                                                                                                                                                                                                                                                                                                 <u>В</u>,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Isolated DNA molecule comprising promoter of the sel-12 gene from Caenorhabditis elegans operably linked to heterologous gene, directs expression in neural cells and is useful to develop drugs to treat
                                                                                                            04-APR-1997;
                                                            Baumeister
                                                                                             04-APR-1997;
                                                                                                                              23-APR-2002
                                                                                                                                              US6376239-B1
                                                                                                                                                               Unidentified
                                                                                                                                                                              amyloid
                                                                                                                                                                                        Sel-12;
                                                                                                                                                                                                      Presenilin protein
                                                                                                                                                                                                                        02-SEP-2002
                                                                                                                                                                                                                                                        AAO18049 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
                                                                            (ELEG-)
                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                  421
                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                 361
                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ۲
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2002-478281/51.
)B; AAL47323.
                                                                                                                                                                                                                                                                                                 TLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI 467
                                                                                                                                                                                                                                                                                                                                         VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL
                                                                                                                                                                                                                                                                                                                                                                           GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                                                                                                                                                                                                                                                            LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR
                                                                                                                                                                                                                                                                                                                                                                  GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                                                                                                                                                                                                                                                   LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE
                                                                                                                                                                                                                                                                                                                                  VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      466;
                                                                                                                                                                             presenilin; neuron
precursor protein;
                                                                            ELEGENE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                        (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ą
                                                                                                             97US-0832867
                                                                             GMBH
                                                                                                                                                                                                                                                        Protein;
                                                                                                                                                                             neuronal disorder; familial Alzheimer's disease; rotein; APP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              99.8%;
                                                                                                                                                                                                                                                        467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pred. No. 4.5e
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 2387;
Pred. No. 4
                                                                                                                                                                                                                                                        Ā
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 22;
4.5e-235;
hes 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length
                                                                                                                                                                                                                                                                                                 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      467;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                  240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     60
                                                                                                                                                                                                                                                                                                                                                                  360
                                                                                                                                                                                                                                                                                                                                                                                  360
                                                                                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                                                   240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0;
```

```
RESULT 11
AAUT9416
ID AAUT9
XX AUT9
AC AAUT9
XX DT O2-JU
XX Humar
XX Humar
KW Humar
KW gamma
KW neurc
OS Homo
XX WO200
XX WO200
XX WO21-M
XX 11-M
XX
                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                                                                                                                     Ъ
                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                             Q
                                                                                                                                                                                                                                                                                                                                                                                                                                 Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        멍
                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                               뫄
                                                                                                                                                                                                                                                                                                                                                                       QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local S
Matches 466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The present invention relates to DNA molecules comprising the promoter of the sel-12 gene from Caenorhabditis elegans operably linked to a heterologous DNA sequence encoding a protein of interest. The sequence can be used to develop drugs for the treatment, prevention or delay of a neuronal disorder. In particular, the neuronal disorder may be familial Alzheimer's disease. The present sequence is a presentlin protein described in the exemplification of the invention.
           12-SEP-2001; 2001WO-GB04094
                              21-MAR-2002
                                                                                                                           Human presenilin-1,
                                                                                                                                                02-JUL-2002
                                                                                                                                                                   AAU79416;
                                                                                                                                                                                     AAU79416 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          neuronal disorders
                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                       421
                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity
                                                                                                                                                                                                                                    TLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI
                                                                                                                                                                                                                                                                                                                                                    QVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTE 120
                                                                                                                                                                                                                                                                                                                         GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                                                                                                                          VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL
                                                                                                                                                                                                                                                                                                                GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                               secretase;
                                                                                    integrin-linked kinase; ILK; presenilin-1;
secretase; apoptosis; Alzheimer's disease; I
rotective; cytostatic; cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                               (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4; 78pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ΑA;
                                                                                                                                                                                    protein;
                                                                                                                            PS-1.
                                                                                                                                               entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            99.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       English
                                                                                                                                                                                     467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score
Pred.
                                                                                                                                                                                     A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2387;
No. 4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 23;
4.5e-235;
hes 1;
                                                                                               protein kinase B;
ps-1; nootropic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length
                                                                                                                                                                                                                                                        467
                                                                                                                                                                                                                                       467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      467;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                60
                                                                                                                                                                                                                                                                            420
                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                 360
                                                                                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                                                                                                         300
                                                                                                                                                                                                                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      o
E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0
```

```
Ş
                                                                                                                                                                                                                                                                                                     밁
                    δã
                                                          밁
                                                                                     Ş
                                                                                                                                           Ş
                                                                                                                                                                                밁
                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                               Š
                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                           ρ
                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local S
Matches 466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           included are the method above where the components are protein kinase beta (PKB), gamma secretase or their functional variants, test kits for carrying out the methods and an agent identified by the methods. The methods are used for identifying an agent that modulates interaction between IIK and PS1. or PKB or gamma-secretase. The agent herapeutic applications in treating humans or animals, for treating a host suffering from a condition associated with an interaction between IIK and PS1, activity of PKB, activity of gamma-secretase, apoptosis, cancer and Alzheimer's disease. The agent is also useful for manufacturing a medicament for use in treatment of the above mentioned conditions. The present sequence represents human presentiin-1, PS-1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The invention relates to identifying an agent modulating interaction between integrin-linked kinase (ILK) and presentlin-1 (PS1) comprising providing ILK, PS1 or their functional variants, as first and second components respectively, contacting the components in the presence of a test agent under conditions that in absence of the agent, would permit the components to interact and determining whether the agent is capable of modulating the interaction between the components. Also
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Disclosure; Page 43-45; 53pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Identifying agent that modulates interaction between integrin-linked kinase and presentlin-1, useful for treating Alzheimer's disease, and identifying agent that modulates protein kinase B or gamma secretase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            activity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (GLAX ) GLAXO GROUP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               12-SEP-2000; 2000GB-0022333.
 421
                            421
                                                          361
                                                                                        361
                                                                                                                       301
                                                                                                                                                   301
                                                                                                                                                                                 241
                                                                                                                                                                                                              241
                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                               بر
                                                                                                                                                                                                 LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE
                                                                                                                                                                                                                                                                                                    TLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI 467
                                                                                                                                   GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                                                                                                         YLGEVEKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY
                                                                                                                                                                                                                                                                                                                                                                                QVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTE 120
                                                                                                                                                                                                                                                                                                                                                                                                                           MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR
                                                         VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL
                                                                       VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWYTTIACFVAILIGLCL
                                                                                                                   GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                                LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE
                                                                                                                                                                                                                                         YLGEVFKTYNVAVDYITVALLIWNFGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2002-351896/38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          466;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ellis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ą,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   O
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LTD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       99.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score
Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2387; DB 23;
No. 4.5e-235;
smatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length
467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       467;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                     180
                                                                                                                                                                                                                                                                                                                                   180
                                                                                                                                                  360
                                                                                                                                                                                                            300
                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                                                                                                                                                                            60
                                                                                                                                                                                                                                                                                                                                                                                                                                                          60
                                                                                                                   360
                                                                                                                                                                                300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
```

οy DЬ δÃ DЬ Ş

121 61 61

DTETVGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLFFFSFI 180

QVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTE

MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR

60

0;

```
RESULT 12
AAE17051
                                                                                                                                                      Cleaved. Mutant presenting are useful for identifying agents that modulate amyloid beta-peptide (Abeta) derived peptides are presentlin is also useful as a target for screening drugs useful in the treatment of pathologies associated with aberrant amyloid precursor protein processing, such as Alzheimer's disease, Parkinson's disease, multiple sclerosis, Huntington's disease, amylotrophic lateral sclerosis, head injury disease, Picks disease, frontal lobe dementia, cerebellar degeneration, stroke, ischaemic injury and schizophrenia. A transgenic non-human animal is useful for analysing the interaction between APP and mutant presentlin-processing protease in vivo, and for screening anti-
animal is useful for analysing the interaction between APP and mutant presentlin-processing protease in vivo, and for screening anti-
presentlin-processing protease in vivo, and for screening anti-
alzheimer's disease drugs in vivo. The present sequence is human
                                                              Query Match
Best Local
                                               Matches
                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                      The invention relates to mutant presenilin 1 (PS1) and presenilin 2 (PS2) polypeptides. Presenilin are involved in the processing of amyloid
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Disclosure; Fig 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Novel isolated mutant presenilin 1 and presenilin 2 polypeptides, useful for screening of drugs for treating pathologies associated with aberrant amyloid precursor protein processing, such as Alzheimer's
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Carter DB,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human: presentlin 1; PS1; amyloid precursor protein; APP; drug scree Alzheimer's disease; Parkinson's disease; multiple sclerosis; stroke Huntington's disease; amylotrophic lateral sclerosis; Picks disease; bead injury disease; frontal lobe dementia; cerebellar degeneration;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human mutant presenilin 1 (PS1) wild type
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAE17051;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAE17051 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (PHAA ) PHARMACIA & UPJOHN CO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         30-JUN-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        29-JUN-2001; 2001WO-US16508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WO200202601-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        10-JAN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ischaemic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      18-APR-2002
1 MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2002-140082/18.
                                               466;
                                                            Similarity
                                                                                                                                          type protein.
                                                                                                               467
                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Tomasselli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2000US-215345P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first
                                                                                                               AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                      80pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    entry)
                                                            99.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                        English.
                                               0
                                                            Score
Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        467
                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ⋛
                                                            2387;
No. 4.
                                               1.5e-235;
nes 1;
                                                                               DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      protein.
                                               Indels
                                                                            Length
                                                                               467;
                                               0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      stroke;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     screening;
                                               Gaps
```

В

Qy

망 Ş 밁

밁 δÕ Qy

밁

밁

0

```
31-JUL-1995;
28-APR-1995;
28-JUN-1995;
            AAW05736-W05760 represent mutated versions of the human presenilin-1-1 protein (see AAW05733 for wild type sequence). AAW05734 represents a different wild type form of presenilin-1 that results from alternate splicing of the genomic DNA sequence. The presenilins are a family of highly conserved integral membrane proteins with a common structural motif, common alternate splicing patterns, and common mutational hot
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Кеу
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Presenilin-1; human; hPS1-1; hPS1-2; PS-2; integral membrane protein; familial Alzheimer's disease; cerebral haemorrhage; schizophrenia; depression; antibody; gene expression modulator; therapy; mutein.
                                                                                                                                        Claim
                                                                                                                                                                                                                                                               Fraser
                                                                                                                                                                                                                                                                                                (UTOR
                                                                                                                                                                                                                                                                                                                                                                                                                         29-APR-1996;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           31-OCT-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Presenilin-1; human;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Presenilin-1-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     23-JUL-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAW05755
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WO9634099-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                       presenilin genes - useful for diagnosis, therapy and drug sening of familial Alzheimer's disease, cerebral disorders,
                                                                                                                                                                                                                             1996-497631/49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              YLGEVFKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       YLGEVFKTYNVAVDYITVALLIWNFGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY
                                                                                                                                        3; Page
                                                                                                                                                                                                                                                               PE,
                                                                                                                                                                                                                                                                                              HSC RES & DEV LP
UNIV TORONTO GOVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        standard;
                                                                                                                                                                                                                                                               Rommens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first
                                                                                                                                     -; 178pp; English.
                                                                                                                                                                                                                                                                                                                                                  95US-0509359.
95US-0431048.
95US-0496841.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   L286V mutation
                                                                                                                                                                                                                                                                                                                                                                                                                         96WO-CA00263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers 286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /label= L286V
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Protein;
                                                                                                                                                                                                                                                                                                GOVERNING
                                                                                                                                                                                                                                                               St
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          467
                                                                                                                                                                                                                                                              George-Hyslop
                                                                                                                                                                                                                                                                                                  COUNCIL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AA.
implicated
                                                                                                                                                                                                                                                               PH;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AD;
```

```
RESULT 14
AAW05758
ID AAW0
XX
AC AAW0
AC AAW0
DT 23-(
XX
DE Pre
XX
DE Pre
XX
EAW
DE Pre
XX
OS Pr
XW
OS H
XX
FFT
XX
PN
XX
PD
XX
PD
XX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    88888888888
                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                          βÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local S
Matches 465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Alzheimer's disease (AD) and possibly other diseases such as cerebral haemorrhage, schizophrenia, depression etc., so detection of mutations the DNA encoding the wild type sequences can be used for diagnosis of these diseases. The wild type proteins, or vectors that express them or containing antisense sequences, antibodies selective for these mutant forms of the proteins and modulators of PS gene expression are potentially useful for treatment of AD etc. Transgento animals are useful as models for drug screening. The antibodies can also be used e.
                                                                     Key
Modified-site
                                                                                                                              depression;
                                                                                                                                          Presenilin-1; human; familial Alzheimer's
                                     WO9634099-A2
                                                                                                                                                                              Presenilin-1-1
                                                                                                                                                                                                    23-JUL-1997
                                                                                                                                                                                                                            AAW05758
                                                                                                                                                                                                                                                  AAW05758 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                       301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR
                                                                                                                                                                                                                                                                                                           TLLLLAIFKKALPALPISITEGLVFYFATDYLVQPFMDQLAFHQFYI 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                  sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DTETYGQRALHSILNAAIMISVIVYMTILLVYLIKYRCYKVIHAWLIISSLLLLEFFSFI
                                                                                                                                                                                                                                                                                                                                                          VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL
                                                                                                                                                                                                                                                                                                                                                                              VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL
                                                                                                                                                                                                                                                                                                                                                                                                       GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                                                                                                                                                                                                                                                                   YLGEVFKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DTETVGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLFFFSFI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       465;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     467
                                                                                                                              antibody;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
                                                                                                                                                                                                    (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ÃĄ;
                                                                                                                                                                             L392V mutation.
                                                                     Location/Qualifiers
                                                                                                                                                                                                                                                  Protein;
                                                                                                                                                                                                    entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 99.7%;
                                                                                                                                          hPS1-1; hPS1-2; PS-2; integral membrane protein; disease; cerebral haemorrhage; schizophrenia;
                                                                                                                              gene
                                                                                                                                expression modulator;
                                                                                                                                                                                                                                                   467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score
Pred.
                                                                                                                                                                                                                                                  ΑA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2384;
No. 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2e-235;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  120
                                                                                                                                                                                                                                                                                                                                                                                                                                                    300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 60
                                                                                                                                                                                                                                                                                                                                                                                                                             360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                                                                                       360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    or
                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          in
```

```
5
                                                 В
                                                                      δ
                                                                                                    몽
                                                                                                                       Š
                                                                                                                                                       В
                                                                                                                                                                              δ
                                                                                                                                                                                                           망
                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                D
                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                    B
                                                                                                                                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CC AAW05736-W05760 represent mutated versions of the human presenilin-1-1 CC protein (see AAW05733 for wild type sequence). AAW05734 represents a CC different wild type form of presenilin-1 that results from alternate splicing of the genomic DNA sequence. The presenilins are a family of CC highly conserved integral membrane proteins with a common structural CC motif, common alternate splicing patterns, and common mutational hot spot regions. Mutations in PS genes are implicated in familial CC Alzheimer's disease (AD) and possibly other diseases such as cerebral CC haemorrhage, schizophrenia, depression etc., so detection of mutations in CC the DNA encoding the wild type sequences can be used for diagnosis of CC these diseases. The wild type proteins, or vectors that express them or CC containing antisense sequences, antibodies selective for these mutant CC forms of the proteins and modulators of PS gene expression are CC useful as models for drug screening. The antibodies can also be used e.g. CC for affinity purification and in immunoassays.
                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (HSCR-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   29-APR-1996;
421
                        421
                                                                                                       301
                                                                                                                                301
                                                                                                                                                                                                               181
                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                 121
                                                    361
                                                                           361
                                                                                                                                                           241
                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                             13
                                                                                                                                                                                                                                                                                                                                                                                                                                      Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    presentlin
                                                                                                                                                      QVVEQDEEEDEELTLKYGAKHVIMLFVPVTLCMVVVVATIKSVSFYTRKDGQLIYTPFTE 120
                                                                                                                                                                                                                                                                                                                                                                    MTELPAPLSYFQNAQMSEDNHLSNTVRSQNDNRERQEHNDRRSLGHPEPLSNGRPQGNSR 60
                                                                                                                                                                                                                                                                             DTETVGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLEFFFSFI 180
           TLLLLAIFKKALPALPISITFGLVFYFATDYLVQPFMDQLAFHQFYI 467
                                                 GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                                                                        YLGEVEKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMALVEIKY 240
                                                                                                     GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA
                                                                                                                                                                                                                                                                 DTETVGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLFFFSFI
                                                                                                                                                                                                             YLGEVFKTYNVAVDYITVALLIWNFGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY
                                                                                                                                                                                                                                                                                                                                                                                                                          465;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HSC F
                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Page -;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            of.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RES & DEV LP
V TORONTO GOVI
                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Rommens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           in genes - useful for familial Alzheimer's
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            95US-0509359.
95US-0431048.
95US-0496841.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ξ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   96WO-CA00263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 178pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                     99.78;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GOVERNING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           George-Hyslop
                                                                                                                                                                                                                                                                                                                                                                                                                       Score 2384; DB 17;
Pred. No. 9.2e-235;
1; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COUNCIL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           diagnosis, therapy and drug disease, cerebral disorders,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PH
                                                                                                                                                                                                                                                                                                                                                                                                                                                Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                   467;
                                                                                                                                                                                                                                                                                                                                                                                                                         0
                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                                                         0
```

밁 Ş B δÃ

61 61

Indels

0

Gaps

0

60 60 al Similarity 465; Conserv

```
RESULT 15
AAW05737
                                                                                                                          CC protein (see AAW05736 or epresent mutated versions of the human presenilin-1-1 cp protein (see AAW05733 for wild type sequence). AAW05734 represents a CC different wild type form of presentilin-1 that results from alternate splicing of the genomic DNA sequence. The presentilins are a family of motif, common alternate splicing patterns, and common mutational hot spot regions. Mutations in PS genes are implicated in familial CC Alzheimer's disease (AD) and possibly other diseases such as cerebral CC haemorrhage, schizophrenia, depression etc., so detection of mutations in CC the DNA encoding the wild type proteins, or vectors that express them or CC containing antisense sequences, antibodies selective for these mutant CC forms of the proteins and modulators of PS gene expression are CC useful as models for drug screening. The antibodies can also be used e.g. CC cor affinity purification and in immunoassays.
  Query Match
Best Local s
Matches 465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        31-JUL-1995;
28-APR-1995;
28-JUN-1995;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (HSCR-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      New presentiin genes - useful for screening of familial Alzheimer's
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Key
Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         23-JUL-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAW05737 standard; Protein;
                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Fraser PE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          31-OCT-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            depression;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Presenilin-1; human; hPS1-1; hPS1-2; PS-2; integral membrane protein; familial Alzheimer's disease; cerebral haemorrhage; schizophrenia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Presenilin-1-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAW05737;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1996-497631/49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3; Page -; 178pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VIND
99.7%;
nilarity 99.6%;
Conservative
                                                                                         467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            antibody;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Rommens JM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RES & DEV LP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           95US-0509359.
95US-0431048.
95US-0496841.
                                                                                         ξ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 V82L mutation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  96WO-CA00263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Location/Qualifiers 82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /label= V82L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GOVERNING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          gene expression modulator;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    t2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 467
Score 2384; DB 17;
Pred. No. 9.2e-235;
1; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  George-Hyslop
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COUNCIL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        diagnosis, therapy and disease, cerebral diso
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            therapy;
                                        Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             disorders,
                                              467;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 drug
                                                                                                                                                        e.g.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                     'n
```

- <u>-</u> -	- Qy	о до	 U 10	Qy	Qy	Qy
ear	ğ	₽ ₹	Db Qy	Db Db	Db Db	ОУ
ch cor time	421 421	361 361	301	241 241	181	121 121
Search completed: March 14, 2003, 19:21:13	TLLLLAIFKKALPALPISITEGLVEYFATDYLVQPEMDQLAFHQFYI 467 	VQELSSSILAGEDPEERGVKLGLGDFIFYSVLVGKASATASGDWNTTIACFVAILIGLCL 420 	GDPEAQRRVSKNSKYNAESTERESQDTVAENDDGGFSEEWEAQRDSHLGPHRSTPESRAA 360 	LPEWTAWLILAVISVYDLVAVLCPKGPLRMLVETAQERNETLFPALIYSSTMVWLVNMAE 300 	YLGEVFKTYNVAVDYITVALLIWNLGVVGMISIHWKGPLRLQQAYLIMISALMALVFIKY 240 	DTETVGQRALHSILNAAIMISVIVVMTILLVVLYKYRCYKVIHAWLIISSLLLLFFESFI 180
		5 5	5 5	5 0	5 5	J J